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No. 3.
TALAMANA OR ICONOMETRY

Being a concise account of the measurements of Hindu Images as given in the Agamas and other authoritative works

WITH

ILLUSTRATIVE DRAWINGS

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TĀLAMĀNA OR THE MEASUREMENT OF HINDU IMAGES.

A GENERAL INTRODUCTION TO TĀLAMĀNA.

THERE are different sets of proportions given in the Hindu *Āgamas* for the making of images. Each of these varies with the subject; for example, images of the three Supreme deities, Brahmā, Vishṇu and Śiva are required to be formed according to the set of proportions collectively called the *uttama-daśa-tāla* measurement (Fig. (*a*) Plate IX); similarly, the *madhyama-daśa-tāla* is prescribed for images of the principal *Śaktīs* (goddesses), Lakshmī, Bhūmī, Durgā, Pārvatī and Sarasvatī (Fig. (*b*) Plate IX): the *pañcha-tāla*, for making the figure of Gaṇapati (Fig. (*c*) Plate XI), and the *chatus-tāla* for the figures of children and of deformed and dwarfed men (Fig. (*b*) Plate XII). The term *tāla* literally means the palm of the hand, and by implication is a measure of length equal to that between the tip of the middle finger and the end of the palm near the wrist. This length is in all instances taken to be equal to the length of the face from the scalp to the chin. It is therefore usual to measure the total length in terms of the length of the face rather than in terms of the palm of the hand. This practice is followed also in the succeeding paragraphs. The reader would be inclined to believe that the phrases *daśa-tāla*, *pañcha-tāla* and *ēkatāla* mean lengths equal to ten, five and one *tāla* respectively, but unfortunately this interpretation does not seem to agree with the actual measurements; for example, the total length of an image made according to the *Uttama-daśa-tāla* measurement is 124 *aṅgulas*, and the *tāla* of this image measures $13\frac{1}{2}$ *aṅgulas*; dividing the total length by the length of the *tāla* we find that there are only 9 *tālas* in it; again, the total length of a *chatus-tāla* image is 48 *aṅgulas* and its *tāla* is 8 *aṅgulas* and therefore there are six *tālas* in this set of proportions. Thus it is found that there is no etymological significance clearly visible in the names given to the various proportions.

There are no less than thirty different proportions mentioned in the *āgamas*. These are grouped into ten classes of three each. Of the three proportions of each class, the first is called the *Uttama* (or the superior), the second the *madhyama* (or the middling) and the third the *adhama* (or the inferior) proportions

of that class (*cf*. Figs. (*a*) and (*b*) Plate IX and fig. (*a*) Plate X). The following is the list of classes and divisions of the proportions of images given in the *āgamas* :—

No.	Name of the *tāla* measure.	Division of the *tāla* measure.	Total length of the image.	Length of the face.	Proportion between the length and the *tāla*.
			aṅgulas.		approxly.
1	Daśa-tāla measure	a. Uttama	124	$13\frac{1}{2}$	9
		b. Madhyama	120	13	$9\frac{1}{4}$
		c. Adhama	116	$12\frac{1}{2}$	$9\frac{1}{3}$
2	Nava-tāla measure	a. Uttama	112	12	$9\frac{1}{3}$
		b. Madhyama	108	$11\frac{5}{8}$	$9\frac{1}{3}$
		c. Adhama	104	$11\frac{1}{4}$	$9\frac{1}{4}$
3	Ashṭa-tāla measure	a. Uttama	100	$10\frac{3}{4}$	$9\frac{1}{3}$
		b. Madhyama	96	..	..
		c. Adhama	92	..	..
4	Sapta-tāla measure	a. Uttama	88	..	..
		b. Madhyama	84	..	..
		c. Adhama	80	..	..
5	Shaṭ-tāla-measure	a. Uttama	76	$8\frac{1}{2}$	9
		b. Madhyama	72	..	..
		c. Adhama	68	..	..
6	Pañcha-tāla measure	a. Uttama	64	..	..
		b. Madhyama	60	..	..
		c. Adhama	56	..	..
7	Chatus-tāla measure	a. Uttama	52	7	$7\frac{1}{2}$
		b. Madhyama	48	8	6
		c. Adhama	44	..	..
8	Tritāla measure	a. Uttama	40	..	..
		b. Madhyama	36	..	..
		c. Adhama	32	..	..

No.	Name of the *tāla* measure.	Division of the *tāla* measure.	Total length of the image.	Length of the face.	Proportion between the length and the *tāla*.
			aṅgulas.		
9	Dvitāla measure	a. Uttama	28	..	..
		b. Madhyama	24	..	..
		c. Adhama	20	..	..
10	Ekatāla measure	a. Uttama	16	..	..
		b. Madhyama	12	..	..
		c. Adhama	8	..	..

From the above table it can be seen that each division is less than the one which precedes it by four *aṅgulas; e.g.*, the *adhama-daśa-tāla* is four *aṅgulas* less than the *madhyama-daśa-tāla* and this latter is four *aṅgulas* less than the *uttama-daśa-tāla*. The *āgamas* allow an error not exceeding 6 *yavas* or $\frac{3}{4}$ *aṅgula* either way in the actual making of images; the rules are not rigourously binding upon the sculptor, who is often required to mould his subject according to the canons of beauty and according to his own artistic instinct. In practice it is found that the various proportions yield more or less artistic images, confirming the fact that the authors of the *āgamas* have studied elaborately the proportions of the various members of the human body in different types, both male and female. As they add largely to our stock of knowledge of the History of the Fine Arts in India, these proportions are of great value to students of the pictorial and plastic arts.

In the Indian measure of length there are two different kinds of units, namely, the absolute and the relative. Of these the first is based upon the length of certain natural objects, while the second is obtained from the length of a particular part or limb of the person whose measurement is under consideration. The following table gives the relation between the various quantities used in the absolute system :—

8 Paramāṇus make	1 Ratharēṇu.
8 Ratharēṇus ,,	1 Rōmāgra.
8 Rōmāgras ,,	1 Līkshā.
8 Līkshās ,,	1 Yūka.
8 Yūkas ,,	1 Yava.
8 Yavas ,,	1 Uttama-mānāṅgula.
7 Yavas ,,	1 Madhyama-mānāṅgula.
6 Yavas ,,	1 Adhama-mānāṅgula.

Besides these, there are also other larger units of length; they are :—

24 Aṅgulas or Mānāṅgulas make	. . . . .	1 Kishku.
25 Mānāṅgulas	,, ...	1 Prājāpatya.
26 Mānāṅgulas	,, ...	1 Dhanurgraha.
27 Mānāṅgulas	,, ...	1 Dhanurmushṭi.
4 Dhanurmushṭis	,, ...	1 Daṇḍa.

The measure called *daṇḍa* is employed in ascertaining large lengths like that, for instance, of a street in a village.

In the relative system an *aṅgula* is taken to be the length of the middle digit of the middle finger of either the sculptor or the architect, or of the rich devotee who causes a temple to be built or an image to be set up. The *aṅgula* thus obtained is called a *mātrāṅgula*. Another kind of *aṅgula* is obtained by dividing the whole length of the body of an image into 124, 120, 116, etc., equal parts; each of these divisions is called a *dēha-labdha-aṅgula* or shortly *dēhāṅgula*. The relative measure is meant to be used in the construction of temples or in the making of images; it is, however, employed for the latter purpose more often than for the former. Different names are given to certain lengths representable by two or more *dēhāṅgulas* up to twenty-seven; a knowledge of these is also very necessary for the proper understanding of the descriptions given in the Sanskrit texts printed in the Appendix B to Vol. I of my *Elements of Hindu Iconography*. An explanatory list of those names is accordingly given below :—

A distance of *one aṅgula* is called *Mūrti, Indu, Viśvambharā, Mōksha* and *Ukta*.

A distance of *two aṅgulas* is called *Kalā, Gōḷaka, Aśvini, Yugma, Brāhmaṇa, Vihaga, Akshi* and *Paksha*.

A distance of *three aṅgulas* is called *Ṛiṇa, Agni, Rudrāksha, Guṇa, Kāla Śūla, Rāma, Varga* and *Madhyā*.

A distance of *four aṅgulas* is called *Vēda, Pratishṭhā, Jāti, Varṇa, Karṇa* (*or karaṇa*), *Abjajānana, Yuga, Turya* and *Turīya*.

A distance of *five aṅgulas* is called *Vishaya, Indriya, Bhūta, Ishu, Supratishṭhā* and *Pṛithvī*.

A distance of *six aṅgulas* is called *Karma, Aṅga, Rasa, Samaya, Gāyatrī, Kṛittikā, Kumārānana, Kauśika* and *Ṛitu*.

A distance of *seven aṅgulas* is called *Pātāla*, the *Munis, Dhātus, Lōkas Ushṇik, Rōhiṇī, Dvīpa, Aṅga* and *Ambhōnidhis*.

A distance of *eight aṅgulas* is called *Lōkapālas, Nāgas, Uraga, Vasus, Anushṭup* and *Gaṇas*.

A distance of *nine aṅgulas* is called *Bṛihatī, Gṛihas, Randhras, Nandas* and *Sūtras*.

A distance of *ten aṅgulas* is called *Dik, Prāturbhāva, Nāḍi, Paṅkti*.

A distance of *eleven aṅgulas* is called *Rudras* and *Trishṭup*.

A distance of *twelve aṅgulas* is called *Vitasti, Mukha, Tāla, Yama, Arka, Rāśi* and *Jagatī*.

A distance of *thirteen aṅgulas* is called *Atijagatī*.

A distance of *fourteen aṅgulas* is called *Manu* and *Śakvarī*.

A distance of *fifteen aṅgulas* is called *Ati-śakvarī* and *Tithi.*
A distance of *sixteen aṅgulas* is called *Kṛiyā, Ashṭi* and *Indu-Kalā.*
A distance of *seventeen aṅgulas* is called *Atyashṭi.*
A distance of *eighteen aṅgulas* is called *Smṛiti* and *Dhṛiti.*
A distance of *nineteen aṅgulas* is called *Atidhṛiti.*
A distance of *twenty aṅgulas* is called *Kṛiti.*
A distance of *twenty-one aṅgulas* is called *Prakṛiti.*
A distance of *twenty-two aṅgulas* is called *Ākṛiti.*
A distance of *twenty-three aṅgulas* is called *Vikṛiti.*
A distance of *twenty-four aṅgulas* is called *Saṁskṛiti.*
A distance of *twenty-five aṅgulas* is called *Atikṛiti.*
A distance of *twenty-six aṅgulas* is called *Utkṛiti.*
A distance of *twenty-seven aṅgulas* is called *Nakshatra.*

The measurements described in Saṅskṛit authorities are of six kinds; and they are respectively called *Māna, Pramāṇa, Unmāna, Parimāṇa, Upamāna* and *Lambamāna.* Of these *māna* is the measurement of the length of the body; *pramāṇa* is that of its breadth, that is a linear measurement taken at right angles to and in the same plane as the *māna;* measurements taken at right angles to the plane in which the *māna* and *pramāṇa* measures have been noted, are called *unmāna,* which obviously means the measure of thickness; *parimāṇa* is the name of the measurement of girths or of the periphery of images; *upamāna* refers to the measurements of inter-spaces, such, for instance, as that between the two feet of an image; and lastly *lambamāna* is the name given to measurements taken along plumb-lines. These six names of the requisite linear measurements have a number of synonyms which it is also very necessary to know for understanding aright the texts given in Appendix B of Vol. I, *Elements of Hindu Iconography.* They are therefore given here below:—

Māna.—Āyāma, Āyata, Dīrgha.

Pramāṇa.—Vistāra, Tāra, Stṛiti, Viśṛiti, Viśṛitam, Vyāsa, Visārita, Vipula, Tata, Vishkambha and *Viśāla.*

Unmāna.—Bahaḷa, Ghana, Miti, Uchchhrāya, Tuṅga, Unnata, Udaya Utsēdha, Uchcha, Nishkrama, Nishkṛiti, Nirgama, Nirgati and *Udgama.*

Parimāṇa.—Mārga, Pravēśa, Pariṇāha, Nāha, Vṛiti, Āvṛita and *Nata.*

Upamāna.—Nīvra, Vivara and *Antara.*

Lambamāna.—Sūtra, Lambana and *Unmita.*

Besides the smaller unit known as the *dēhāṅgula,* there are other larger relative units of length, which are called *Prādēśa, Tāla, Vitasti* and *Gōkarṇa.* The distance between the tips of the thumb and the forefinger, when they are stretched out to the utmost, is called a *prādēśa;* that between the tips of the thumb and the middle finger, when they are also so stretched out, is called the *tāla;* that between the tips of the stretched out thumb and ring-finger is known as the *vitasti;* and that between the stretched out thumb and little-finger is called the *gōkarṇa.*

The *Āgamas* prescribe various proportions to the images of the various gods, goddesses and other beings belonging to the Hindu pantheon; the unit of

measurement chosen for stating these proportions is the *tāla*. The different *tāla* measurements prescribed for the various images are given below:—

The *Uttama-daśa-tāla* (of 124 *dēhāṅgulas*) is prescribed for images of the principal deities—Brahmā, Vishṇu and Śiva.

The *Madhyama-daśa-tāla* (of 120 *dēhāṅgulas*) for those of Śrīdēvī, Bhūmidēvī, Umā, Sarasvatī, Durgā, Saptamātṛikās, Ushā and Jyēshṭhā.

The *Adhama-daśa-tāla* (of 116 *dēhāṅgulas*) for Indra and the other Lōkapālas, for Chandra and Sūrya, for the twelve Ādityas, the eleven Rudras, the eight Vasus, the two Aśvini-dēvatas, for Bhṛigu and Mārkaṇḍēya, for Garuḍa, Śēsha, Durgā, Guha or Subrahmaṇya, for the seven Ṛishis, for Guru, Ārya, Chaṇḍēśa and Kshētrapālakas.

The *Navārddha-tāla* for Kubēra, for the nine *Grahas* (planets and certain other celestial objects).

The *Uttama-nava-tāla* for Daityēśa[1], Yakshēśa, Uragēśa, Siddhas, Gandharvas and Chāraṇas, Vidyēśa and for the Ashṭamūrtis of Śiva.

Sa-tryaṅgula-nava-tāla for such persons as are equal to the gods in power, wisdom, sanctity, etc.

Nava-tāla for Rākshasas, Asuras, Yakshas, Apsarasas, Astramūrtis and Marudgaṇas (cf. Fig. (*b*) Plate X).

Ashṭa-tāla for men.

Sapta-tāla for Vētālas and Prētas.[2]

Shaṭ-tāla for Prētas.

Pañcha-tāla for Kubjas or deformed persons and for Vighnēśvara.

Chatus-tāla for Vāmanas or dwarfs and for children.

Tritāla for Bhūtas and Kinnaras (cf. Plate XIII).

Dvitāla for Kūshmāṇḍas.

Eka-tāla for Kabandhas.

The measurements of images in some of the Tālamāna proportions are given in tabular form in the succeeding pages of this work; and figures are also given in the Plates to show how these proportions work out.

In this connection, it is interesting to note that, according to the canons of European art, a well-proportioned male figure is equal to eight times the length of the head; in other words is *ashṭa-tāla* in height; that of a female figure is seven and a half times that of the head, or *sārdha-sapta-tāla*. According to European artists the ear is said to extend from a line drawn across the side of the head on a level with the eyebrow, to another which is drawn on a level with the wing of the nose: or, in the language of Indian artists, between the *bhrū-sūtra* and the *nāsā-puṭa-sūtra*. Similarly the other rules arrived at by the Indian artist do not appear to be divergent from those evolved by the European artist, and, if in Indian sculpture the results are not good in some instances, it is the fault of the artist and not attributable to the guide-books. The similarity of the limbs of the body to various natural objects such as, for instance, as that of the nose to the sesamum flower, or of the trunk (composed of the

[1] These are, according to the *Kāraṇāgama*, to be made according to the *Uttama-nava-tāla* measure.

[2] These are according to the *Kāraṇāgama*, to be made according to the *Shaṭ-tāla* measure.

chest and abdomen) to the face of a cow, is very well pointed out and exemplified by a number of illustrations by Mr. Abanīndranāth Tagore in his excellent article entitled 'Indian Iconography' contributed to the *Modern Review* for March 1914.

The *Śukranīti* gives also a few of the *tāla-mānas*, together with some interesting details of the classification of images, the materials from which they are to be made, and other similar matters (Fig. (*b*) Plate XI). It is hoped that it will not be uninteresting to know what this old work has to say on such an important subject as the making of images for worship. A summary of the contents of the portion of this work dealing with these subjects will therefore be given in the following paragraphs. According to the *Śukranīti*, also, an image is said to be necessary for concentration of thought and meditation upon a deity (*dhyāna*), and that this concentration of mind cannot be achieved better than by keeping an image before one's physical and mental eyes.

Images may be made of earth, flour, sand, wood, stone or metals; or they may be painted upon walls and other surfaces. Only those images sculptured according to the measurements prescribed by authoritative texts, and shaped beautifully, are capable of giving merit (*puṇya*) to the worshippers; the worship of images made out of proportion would cause affliction. Worship of the statues of human beings is not to be resorted to; for it produces evil effects; on the other hand, worship offered to images of gods brings merit and grants *svarga* (heaven) to the devotee. Even if the image of a god is not beautiful, so long as it conforms to the prescribed measurements, it is capable of granting the good mentioned above; however beautiful the statue of a human being may be, it is able to bestow not even fame (*yaśa*) on its worshipper.

Images of gods are divided into three classes, namely, the *sātvikī*, the *rājasī* and the *tāmasī*. These three aspects of the images of gods, as for instance of Vishṇu, have to be set up in the places prescribed for them in a village, and should be worshipped also according to the rules laid down for each one of them. Images which have their hands held in the *yōga*, the *abhaya* and the *varada mudrās*, and which are represented as being worshipped by Indra and other minor gods, are said to belong to the *sātvikī* aspect. Those which hold weapons in their hands and have the *varada* and the *abhaya mudrās*, whether standing on *pīṭhas* or riding upon *vāhanas* (or vehicles) and adorned with a number of ornaments and draped in different clothes, belong to the *rājasī* aspect. And those images which are sculptured as engaged intently upon war with the *asuras*, and are shown in the *terrific* aspect (*ugra*) as killing demons, are said to be of the *tāmasī* aspect. In the case of the image of Vishṇu it is said to be of the *sātvikī* aspect if it has two of its hands in the *varada* and the *abhaya* poses and holds in the other two the *śaṅkha* and the *padma*; of that of Śiva (Sōma), if it has two hands in the *varada* and the *abhaya* poses and carries in the two others the *mṛiga* and the *vādya* (either perhaps a *ḍamaru* or a *vīṇā*); of that of Gaṇēśa, if it has two hands in the *abhaya* and the *varada* poses and holds in the other two hands a lotus and a *laḍḍuka* (a cake); of that of Sūrya, if it has two hands in the *varada* and the *abhaya* poses and carries in the other

two hands a *padma* and an *akshamālā;* and of that of Lakshmī, if it has two hands in the *varada* and the *abhaya* poses and bears in the remaining two hands a *vīṇā* and a fruit of the *mātuluṅga.*

The following table of linear measure is given in the *Śukranīti*:—

4 Aṅgulas make	. . . . . .	1 Mushṭi.
12 Aṅgulas ,,	. . . . . .	1 Tāla.

A height of—

7 Tālas is prescribed for the image of a dwarf.
8 Tālas is prescribed for the image of human beings.
9 Tālas is prescribed for the image of divine beings.
10 Tālas is prescribed for the image of demoniac beings (*rākshasas*).

Images of gods may also be made in the *sapta-tāla* and other measurements also, according to the practice of each country or province; but those of female deities should, according to this authority, be made only in the *sapta-tāla* proportion. The images of Nara-Nārāyaṇa, Rāma, Narasiṁha, Bāṇa, Bali, Indra, Paraśurāma and Arjuna should be sculptured according to the *daśa-tāla* proportion; while those of Chaṇḍi, Bhairava, Vētāḷa, Narasiṁha (?), Varāha and other terrific (*krūra*) deities, and of Hayagrīva, should be represented in the *dvādaśa-tāla* proportion. Representations of *piśāchas, asuras* and of the demons Hiraṇyakaśipu, Vṛitrāsura, Hiraṇyāksha, Rāvaṇa, Kumbhakarṇa, Namuchi, Śumbha, Niśumbha and Mahishāsura should be sculptured in the *shōḍaśa-tāla* proportion. For making images of children the *pañcha-tāla* proportion should be employed whereas for those of young boys, the *shaṭ-tāla* proportion should be followed. Again, the *daśa-tāla* was the proportion of the beings who lived in the Kṛita yuga; the *nava-tāla* of those of the Trētāyuga; the *ashṭa-tāla* of those of the Dvāparayuga, and the *sapta-tāla* of those of the Kali yuga; although the passage giving this piece of information may also be taken to mean that the images of beings, who are stated in the *Purāṇas* to have belonged to the Kṛita, Trēta, Dvāpara and the Kali yugas, should be shaped in the *daśa, nava, ashṭa* and *sapta-tāla* proportions respectively. An image made out of white stone is considered to be of the *sātvikī* kind; those made of yellow or red stone are of the *rājasī* kind; and those made of black stone, of the *tāmasī* kind. The stones that are required to be employed in the making of images of gods of the Kṛita, Trēta, Dvāpara and Kali yugas should be respectively of the white, yellow, red and black colours. Again, the white variety of stone should be used for sculpturing images of Śiva; the black variety for those of Vishṇu, and the red variety for those of Sūrya, Gaṇēśa and Śakti.

Images should not be sculptured as either too stout or too lean, but must be of a fairly developed body. The idea of beauty, says the *Śukranīti*, is different for different men; what is beautiful for one might not be so for another; and a piece of sculpture acceptable to all as of great artistic merit would be only one in a hundred thousand. So then, that image which is shaped according to the canons of art laid down by the ancients, and which looks all right, is to be considered as a beautiful one; those which are not made in conformity with the *śāstras* do not please artists, but might be considered beautiful by some.

If no definite description of the image of a divine being is found in works of authority, the image should be taken as possessing four arms; and if no rules are laid down regarding the posture and the attributes of the several hands, then those hands which are held at a lower level than the others should be in the *abhaya* and the *varada* poses; while those held at a higher level alone should carry such objects as the *śaṅkha*, the *chakra*, the *aṅkuśa*, the *pāśa*, the *ḍamaru*, the *śūla*, the lotus, the *Kamaṇḍalu*, the *sruva* (and the *sruk*), the *laḍḍuka*, the fruit of *mātuluṅga*, the *vīṇa*, the *akshamālā* and the *pustaka*.

If more heads than one are prescribed for any deity, they should be arranged on a line with each other, and each one of them should possess a separate neck, *makuṭa* and a pair of ears and eyes. If more arms than two are mentioned for any image, they should be so attached as not to make the width of the shoulders exceed the standard proportion. In the case of Brahmā his four faces should be sculptured as facing the four quarters of the globe, and in the case of Haya-grīva, Varāha, Narasiṁha and Gaṇēśa, the body should be that of a human being; while the nails of Narasiṁha alone should resemble those of the lion.

One can order the image of one's *ishṭa-dēvatā* (the god who is dear to one) to be sculptured either standing or seated on a pedestal (*āsana*, *pīṭha*, etc.), or riding upon a *vāhana* (vehicle), but it must be of due *śāstraic* proportions. As far as possible the images of the majority of the gods should, unless it is expressly ordained otherwise, be made to look like persons of sixteen years of age, without unduly long moustache, thick brows or long eyelashes. The clothes with which they are draped should descend to the ankles; and they should be adorned with different well-wrought ornaments. The joints in the body should be sculptured so as not to show any harsh lines; that is, sharp definition of the muscles connecting the joint between two bones, however correct anatomically, should not occur in an image.

In making images of sand, earth and flour, and in the case of paintings, the proportions laid down need not be strictly followed at all: images in these materials, and paintings, even though they be slightly defective in their proportions, do no harm to their worshippers.

Rules for the making of images are also found in Varāhamihira's *Bṛihat-saṁhitā*. A table of proportions given in this work with an illustration drawn according to those measurements, is also added.

The Uttama-Dasa-Tāla Measure.

Parts of the body measured.	Measurement according to the									
	Śilparatna.		Aṃśumad-bhēdāgama.		Kāraṇāgama		Kāmikāgama.		Vaikhānas-āgama.	
	Aṅg.*	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Vertical measurements (*Māna*).										
The height of the *ushṇīsha* . .	1	3	1	3	1	0	1	0	1	3
From the bottom of the *ushṇīsha* to the end of the front hair.	3	0	3	0	3	0	3	0	3	0
From the end of the front hair to the *akshi-sūtra*.	4	3	...	...	4	4	4	4	4	3
From the *akshi-sūtra* to the end of the nose.	4	3	...	...	4	4	4	4	4	3
From the end of the nose to the end of the chin.	4	3	4	3	4	4	4	4	4	3
The small fleshy fold below the chin	0	4	...	...	0	4	0	4	0	4
Height of the neck . . .	3	7	...	...	4	0	4	0	3	7
From the *hikkā-sūtra* to the middle of the chest.	13	3	13	3	13	4	13	4	13	3
From the middle of the chest to the navel.	13	3	13	3	13	4	13	4	13	3
From the navel to the root of the penis.	13	3	13	3	13	0	13	0	13	3
From the root of the penis to the end of the thigh.	27	0	27	0	27	0	27	0	26	5
The length of the knee . . .	4	0	4	0	4	0	4	0	4	3
The length of the foreleg . .	27	0	27	0	27	0	27	0	26	5
The height of the foot (from the ankle to the ground).	4	0	4	0	4	0	4	0	4	3
From the tip of the toe to the back of the heel.	17	0	17	0	...	...	...	...	17	0
From the bony projection at the ankle to the root of the toe.	...	...	...	...	9	4	...	...	...	...
The length of the upper arm from the *hikkā-sūtra* to the elbow.	27	0	27	0	27	0	...	...	27	0
The length of the elbow . . .	2	0	2	0	2	0	...	...	2	6
The length of the forearm . .	21	0	21	0	21	0	...	...	21	0
The length of the palm of the hand from the wrist to the tip of the middle finger.	13	4	13	4	13	4	...	...	...	...
Measurement of widths (*Pramāṇa*).										
The width of the face . . .	12	4	12	4	...	...	...	...	14	0
The width of the face at its end (?) .	13	4	13	4	...	...	...	...	...	...
The width of the neck at the top .	9	4	9	4	8	4	...	...	9	4

* This abbreviation has been used here and in the other places of this work to mean Aṅgula.

Parts of the body measured.	Measurements according to the									
	Śilparatna.		Aṁśumad-bhēdāgama.		Kāraṇāgama.		Kāmikāgama.		Vaikhānas-āgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāṇa*)—*contd.*										
The width of the neck at the bottom	10	0	10	0	9	6	...	...	...	...
The width from shoulder to shoulder, immediately below the *hikkā-sūtra*.	40 (?)	0	27	0	...	...	...	...	44	0
The distance between the armpits .	22	4	22	4	24	0	...	...	24	0
The width of the arm where the biceps ends.	9	4	...	...	9	2	...	...	...	...
The distance between the nipples .	21	0	...	...	...	...	...	...	20	...
The width of the chest at the place where it ends and the abdomen begins (*madhyapradēśa*).	19	0	19	0	18	4	...	...	...	...
The width of the abdomen along the *nābhi-sūtra*; this region is called the *Sroṇidēsa*.	3	4 (?)	16	0	...	...	...	...	...	...
The width of the *Sroṇidēśa* . .	20	4	20	4	...	...	...	...	20	0
The width of the male-organ . .	1	2	...	...	...	...	...	...	...	...
The width of the thigh at its root .	...	...	...	...	13	4	...	...	13	3
The width of the thigh at its middle	13	6	14	2	...	...	...	...	11	0
The width of the thigh at its lower end.	...	...	...	..	9	4	...	...	...	...
The width of the knee . . .	8	6	9	6	8	4	...	...	9	4
The width of the portion where the knee ends and the foreleg begins.	5	2	...	...	8	1	...	...	...	...
The width of the foreleg at its middle	6	6	6	6	...	...	...	...	7	0
The width of the shaft of the foreleg (*naḷaka*).	4	6	4	6	...	...	...	...	4	4
The distance between the inner bony projections of the ankles.	5	3	5	3	5	0	...	...	5	0
The width of the heel . . .	4	4	4	4	...	...	...	...	3	4
The height of the heel (from the ankle to the ground).	4	4	4	4	...	...	...	...	4	4
The width at the middle of the sole.	6	2	6	2	5	2	...	...	5	4
The breadth of the sole at the toe end.	7	0	7	0	6	0	...	...	...	...
The length of the great toe . .	4	2	4	2	4	0	...	...	4	0
The width of the same . . .	2	1	2	1	6 (?)	0	...	...	2	0
The width of toe-nail . . .	1	½	1	½	1	2	...	...	...	...
The length of the same . . .	0	6⅜ (?)	6	⅜ (?)	1	2	...	...	...	...
The length of the second toe . .	4	3	4	3	4	3	...	...	4	1
The length of the middle toe . .	3	6	3	6	3	4	...	...	3	7

Parts of the body measured.	Measurements according to the Śilparatna.		Aṁśumadbhēdāgama.		Kāraṇāgama		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāṇa*)—*contd.*								
The length of the toe next to that	3	1	3	1	1	4 (?)	3	4
The length of the small toe	2	4	2	4	2	0	3	0
The width of the toe next to the great toe.	...	...	...	...	1	1	1	1
The width of the middle toe	...	...	...	...	1	0	1	½
The width of the toe next to that	...	...	...	...	1	0	1	0
The width of the small toe	...	...	...	...	1	0	1	0
Of the total breadth of the nails of each toe a fourth should be that of the surrounding strip of flesh that keeps them bound to the toes.								
The *Kāraṇāgama* gives 5½, 4½, 4 and 3 *yavas* as the lengths and breadths of the nails of the toes.								
The width of the arm at the biceps.	7	3	8	3	8	4	9	0
The width at the elbow	7	2	7	2	7	4	7	4
The width of the forearm	5	6	5	6	5	3	7	0
The width at the wrist	3	6	3	6	4	0	4	0
The length of the palm of the hand, *minus* the fingers.	7	0	7	0	7	0	7	0
The length of the middle finger	6	4	6	4	6	4	6	4
The length of the ring-finger	5	2	5	2	5	2	5	2
The length of the forefinger	5	1	5	1	5	2	5	1
The length of the little finger.	4	2	4	2	4	1	4	2
The length of the thumb	4	2	4	2	4	1	4	1
The width of the thumb at its root.	1	2	1	2	1	4	...	...
The width of the middle finger at its root.	1	1	1	1	1	1	1	1
The width of the forefinger at its root	1	0	1	0	1	0	1	0
The width of the ring-finger at its root.	1	0	1	0	0	7	0	7
The width of the little finger at its root	0	6	0	6	0	6	0	6
The width of the fingers at the tips is less by $\frac{1}{16}$ of their width at the root.								

Parts of the body measured	Measurements according to the							
	Silparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāṇa*)—*contd.*								
Five-sixths of the width at the tips of the fingers is the width of the nail of each finger.								
The lengths of the nails of the fingers are five-fourths of their width.	...	...	...	...	...	...	The width of the digit of the thumb which bears the nail. 2	4
The nails of the toes should be circular and those of the fingers oval in shape.								
The length of the digit of the finger bearing the nail should be twice the length of the nail.	...	...	...	...	...	...	of the index finger. 1 of the middle finger. 1 of the ring-finger. 1 of the small finger. 1	 4 $7\frac{1}{2}$ 4 2
The length of that digit of the thumb which is near the palm.	2	1	2	1	...	...	The width of that digit of the thumb which is near the palm. 1	 4
The length of that digit of the middle finger next to the palm.	2	2	2	2	...	...	of the index finger. 1	 6
The length of that digit of the index finger next to the palm.	2	0	2	0	...	...	of the middle finger. 2	 2
The length of that digit of the ring-finger next to the palm.	2	0	2	0	...	...	of the ring-finger. 1 of the small finger. 1	 $6\frac{1}{2}$ 4
The length of that digit of the little finger next to the palm.	1	5	1	5	...	...	The width of the middle digit of the index finger. 1	 5
The lengths of the middle digits of each finger should be the arithmetical mean of the lengths of the extreme digits of each finger.	...	...	...	...	...	...	of the middle finger. 2 of the ring-finger. 1 of the small finger. 1	 0 $5\frac{1}{2}$ 3
There should be only two digits in the thumb, while the other fingers should have each three digits.	...	...	...	...	...	...		
The width of the palm at its finger end.	5	4	5	4	6	1	...	...
The width of the same at its middle	6	0	6	0	...	...	...	...
The width of the same near the wrist	6	4	6	4	7	0	6	4
The length of the space between the root of the thumb and the root of the forefinger.	3	4	3	4	...	...	3	4
The distance between the root of the thumb and the wrist.	4	0	4	0	...	...	...	...
The thickness of the wrist . .	...	...	1	4 (?)	...	...	...	...
The thickness of the palm of the hand near the wrist (*Pārshṇihasta*).	3	0	3	0	...	...	4	0

Parts of the body measured.	Measurements according to the							
	Śilparatna.		Aṁśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Measurement of widths (*Pramāna*)—*concld.*								
The thickness of the same near the finger end.	1	0	...	...	1	6	The width of the *Pārshṇi-hasta.* 3	6
The shape of the two halves of the palm near the wrist should be that of the body of a parrot.							The width of the portion resembling the belly of the parrot. 2	6
							The thickness of this portion. 2	4
At the roots of the fingers there should be strips of flesh 4 *yavas* in thickness.								
The thickness of the palm should decrease from the wrist to the finger by 5, 4 and 3 *yavas*.								
There should be fine lines in the shape of a *yava, chakra, śūla, padma* or *kuśa* drawn on the palm of the hand. Their depth should be one eighth of a *yava*.	...	...	...	...	...	...	According to the Vaikhānasāgama the line called the *āyūrēkhā* (the line of life) should begin from near the root of the small finger and should reach the side of the root of the index finger; 6 *yavas* below this line should be the *vidyārēkhā* (the line of learning); from the middle of the bottom of the palm right up to the finger end of the palm should be the *brahmarēkhā*. Besides, there should be other lines resembling in shape the outlines of the *śaṅkha, chakra*, etc.	
Circumferential Measurements (*Parimāṇa*).								
The circumference of the head round where the ears are attached to the head.	38	0	38	0	...	...	42	0
The distance, measured behind, from ear to ear.	11	7	11	7	...	...	13	0
The distance, measured in front, from ear to ear.	22	0	22	0	...	...	26	0
The width of the place where the ear is attached.	2	0	2	0	...	...	1	4
The circumference of the chest .	...	...	...	...	75	0	...	...
The girth of the abdomen at the navel.	...	...	...	...	43	0	...	...
The girth at the hip . . .	...	...	...	...	50	0	...	...

Parts of the body measured.	Measurements according to the							
	Silparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*).								
(a) *The face.*								
1. *Measurement of the length of the hair of the head.*								
Śirōmadhya-maṇḍala (?) (The portion of the head covered by the crown.)	4	0	4	0	...	...	...	...
Maṇḍalāt-agra-kēśāntam (?) (From the circumference of this circle to the front hair.)	9	0	9	0	...	...	...	...
Maṇḍalāt-karṇa-kēśāntam (?) (From this circle to the side hair near the ear.)	9	0	9	0	...	...	...	...
Maṇḍalāt-pṛishṭha-kēśāntām (?) (From the circumference of this circle to the back hair.)	10	4	2	4	...	...	...	...
From the *ushṇīsha* to the front hair	...	...	...	...	9	0	9	0
From the same to the *karṇa-kēśa* (the hair next to the ear).	...	...	...	...	12	0	9	0
From the same to the back hair .	...	...	...	...	13	4	12	0
The width of the forehead . .	9	0	9	0	...	...	...	...
2. *Measurements of the eye.*								
The brow should lie exactly between the front hair and the *akshi-sūtra.*	...	...	...	...	...	...	From the front hair to the middle of the brow (*Kēśāntātbhruvōr-madhyam*). 3	0
The space between the inner ends of the brows.	0	4½	0	4½	...	...	1	0
The length of the brow	5	0	5	0	6	0	5	4
The breadth of the brow at its middle	0	2	0	2	...	...	...	...
The shape of the brow should be that of the crescent moon or that of a stringed bow.								
The diameter of the pupil (*kanīnikā*)	0	1	0	1	...	...	0	1
The diameter of the black ball of the eye.	0	6	0	6	0	6	0	6
The lengths of the whites of the eye on either side of the black ball.	0	6	0	6	0	6	0	6½
The shape of the eye should be like the outline of a fish, the petal of the lotus flower or like the half moon.								
At the ends of the eyes there should be half a *yava* of red flesh.								
It is stated that in the middle of the pupil (*kanīnikā*) there is what is called the *jyōtirmaṇḍala* whose diameter is said to be a *yava.*								

Parts of the body measured.	Measurements according to the							
	Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
2. *Measurement of the eye*—contd.								
The breadth of the upper lid (in the open eye).	0	1¼	0	1½	...	...	0	2
The breadth of the lower lid . .	0	1¼	0	1½	...	...	0	1½
The length of the eyelids . .	2	2	2	2	2	3	...	...
There should be 90 lashes in each eye-lid, according to the *Kāraṇāgama*.								
The distance between the eyes .	2	2	2	2	2	3	...	...
The length of the eyes . . .	...	...	...	...	2	2	...	...
The width of the eyes . . .	0	6	0	6	...	...	2	0 (?)
3. *Measurements of the nose.*								
The length of the *nāsā-puṭa* (the wing of the nose).	2	2	2	2	...	...	2	2
The width of the same . . .	1	1	1	1	1	1	1	0
The thickness of the same at the base of the nose.	0	4½	0	4½	0	4	0	6
The portion between the upper lip and the base of the nose, which is depressed like a cup, is known in Sanskrit by the name of *gōjī*.								
The height of the tip of the nose from the *gōjī*.	2	0	2	0	2	1	2	0
The length of the hole of the nostril .	0	7½	0	7¼	0	3 (?)	...	...
The breadth of the same .	0	5	0	5	0	5	...	...
The *nāsikā-puṭa* should resemble the seed of the long bean, and the shape of the nose should be like that of the flower of sesamum.								
The septum or wall between the two nostrils is called in Sanskrit *pushkara*.								
The length of the *pushkara* along the base of the nose.	1	0	1	0	1	0	1	0
Its thickness	0	3	0	1 (?)	...	...	...	...
The height above the *nāsā-puṭa* of the tip of the nose.	0	1¼	0	1½	...	...	0	1½
The length of the *gōjī* . . .	0	4½	0	4½	0	4	0	4
Its breadth	0	2¼	0	2¼	...	...	0	2
Its depth	0	1	0	1	...	...	...	...

Parts of the body measured.	Measurements according to the							
	Śilparatna.		Aṁśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
4. *Measurements of the mouth.*								
The lips.								
The length of the upper lip, which is also the length of the mouth.	4	2	4	2	4	3	4	½
The breadth of the upper lip at its middle.	0	3½	0	3½	0	3	0	3½
The breadth of the upper lip should gradually diminish from the middle to the sides.								
There should be a thin rim throughout the length of the upper lip (*pāli* in Sanskrit) whose thickness should be a *yava*; and the rim should slant from 3½ *yavas*, the breadth of the middle part of the upper lip, to half a *yava* at its extremity. The upper lip should have three bends along its length.								
The length of the lower lip . .	2	2	2	2	2	0	...	...
Its breadth at the middle . .	1	1	1	1	1	1	...	...
The thickness of the *pāli* of the lower lip.	0	1½	0	1½	...	...	...	...
The *pāli* of the lower lip should be turned downwards.								
The height of the tip of the upper lip, from the chin.	0	6½	0	6½	0	7	...	...
The mouth should always be sculptured so as to express a smiling appearance.								
The cheeks.								
The *snāna* (?) of the cheek from the chin.	0	1½	...	...	...	...	1	½
The breadth of the cheek . .	3	4	...	...	...	...	3	0
The length of the cheek . . .	...	...	...	...	2	0	...	...
The height or convexity of the cheek (*vardhana*).	...	...	...	...	3	0	...	...
The cheek should be oval in shape.								
The chin.								
The length of *hanu-chakra* (the oval elevation at the chin).	...	...	...	...	...	...	0	6
The breadth of the same . .	...	...	...	...	...	...	0	3

Parts of the body measured.	Measurements according to the							
	Śilparatna.		Aṁśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
4. *Measurements of the mouth*—contd.								
The teeth.								
The length of the four upper front teeth.	...	...	...	...	...	...	0	3
The width of these teeth . .	...	...	...	...	...	...	0	3
The length and width of the four lower front teeth.	...	...	...	...	...	...	0	$2\frac{1}{2}$
The length of the canine teeth .	...	...	...	...	...	...	0	4
The shape of the canine teeth should be like the (jasmine) bud.								
The length of the teeth in the lower jaw, corresponding to the canine teeth.	...	...	...	...	...	...	0	$4\frac{1}{2}$
The width of the molar teeth is the same as that of the front teeth and their length is half a *yava* longer than that of the front teeth. There should be five teeth, besides the canine tooth, on each side of the front four teeth. Total, 32 teeth.								
The tongue.								
The length of the tongue . .	...	...	...	...	...	...	6	0
The width of the same . . .	...	...	...	...	...	...	3	0
The length and width of the uvula.	...	...	...	...	...	...	1	0
Measurements of the ear.								
At the junction of the ear with the cheek, the length of the *karṇa-bandha*.	10	0	10	0	...	...	10	0
A space of $1\frac{3}{4}$ *aṅgulas* outside the ear is called the *karṇa-vēśa*.								
Here the ear should spring up.								
The distance between the ears measured in front of the head.	...	...	...	...	21	0	26	0
The distance between the ears measured behind the head.	...	...	...	...	13	0	13	0
The distance between the eye and the ear.	7	0	7	0	...	...	6	0
The length of the ear . . .	...	...	...	...	8	0	6	0
The breadth of the ear . . .	2	2	2	2	2	0	2	0
The height of the top of the ear from the *nētra* or *akshi-sūtra*.	2	2	2	2	...	...	...	...
According to the *Kāraṇāgama*, the top of ear should be on a level with the *bhrū-sūtra*.								

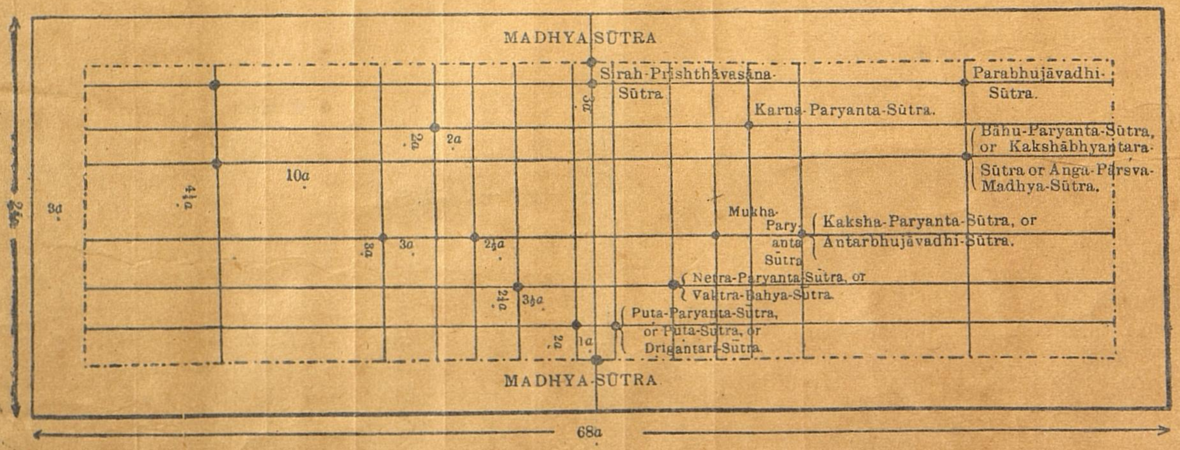
Parts of the body measured.	Measurements according to the							
	Śilparatna.		Amśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
Measurements of the ear—contd.								
The breadth of the portion of the ear that is folded inwards on the top.	1	1	1	1	...	...	...	...
The rest of the ear should be circular in shape (?).								
The length of the ear below the *nētra-sūtra*.	2	1	2	1	...	...	...	...
The length of the bored and pendulous lobe of the ear, called the *nāla* in Sanskrit.	4	4	4	4	4	0	...	...
The width of this strip of flesh in front	1	0	1	0	...	...	...	...
The width of the same at the back .	1	4	1	4	...	...	...	...
The thickness of the same . .	0	4	0	4	0	3	0	4
The distance between the two pieces of the *nāḷa*, the front and back pieces.	...	...	4	6	...	...	...	...
The total length of the ear, from top to the bottom of the *nāḷa*.	8	7	9	7	8	0	...	...
The thickness of the *pippalī* or anti-tragus.	1	4	...	...	...	...	...	...
The length of the same . . .	3	0	...	...	...	...	1	0
Its height	0	4	...	...	0	4	...	...
The *pippalī* should ha·e decreasing width ·om the top to the bottom.								
A member designated the *piñchhalī* (tragus) is said to be at the place wherein the ear resembles the letter *la* (written as in the Grantha alphabet). Its length is . .	2	0	...	...	...	...	...	...
The width of the *piñchhalī* . .	1	4	...	...	...	...	...	...
The distance of the hole of the ear below the *nētra-sūtra*.	1	4	...	...	...	...	...	...
This ear hole should be round.								
The thickness of the rim of the ear .	0	1½	...	...	0	2	...	...
The width of the ear at the back .	1	4	...	...	...	...	...	...
Measurements of the back of body. The distance between the back hair and the ear.	1	4	1	4	...	...	...	...
The thickness of the *kritāni* (?) at the back of the ear.	0	4	...	...	...	...	...	...
The length of the ear at the back below the *kritāni*.	4	3	...	...	...	...	...	...
The distance between the back of the ear and the raised part of the nape of the neck called in Sanskrit the *kṛikāṭī*.	10	0	...	...	...	...	...	...

Parts of the body measured.	Measurements according to the — Śilparatna.		Aṁśumadbhēdāgama.		Kāraṇāgama.		Vaikhānasāgama	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*contd.*								
Measurements of the back of body—contd.								
The height of the nape of the neck below the back hair.	4	3	...	...	...	...	...	...
The width of the nape of the neck at the top.	9	0	...	...	...	...	...	...
The width of the bottom . .	10	4	...	...	9	6	...	...
The nape of the neck should be broader at the base than at the top and the girth of the neck should be circular.								
The distance between the armpits measured behind the back.	27	4	...	...	27	0	...	...
The height of the shoulder-blade above the armpit.	7	0	...	...	...	...	...	...
The length of the upper arm from the armpit.	7	0	...	...	...	...	...	...
The width of the back at the *madhya-sūtra*.	16	4	...	...	...	...	...	...
The width of the back at the *nābhi-sūtra*.	20	4	...	...	...	...	...	...
The width of the waist at the back .	18	0	...	...	...	...	...	...
The width of each glutial . .	9	6	...	...	...	...	...	...
These should be spherical in shape.								
The width of the space between the glutials.	0	4	...	...	...	...	...	...
Measurements of the width on the sides.								
The width of the side of the body near the armpits.	7	0	...	...	...	...	...	...
The width of the side of the body at the *stana-sūtra*.	16	2	...	...	...	...	...	
The width of the side at the *madhya-sūtra*.	12	2	...	...	...	...	...	...
The region below the *madhya-sūtra* is known as the *Srōṇidēśa*.								
The width of the side of the body at the middle of the *Śrōṇi*.	17	0	...	...	...	...	...	...
The height or bulge of the *Śrōṇi* .	7	0	...	...	...	...	...	...
The height or bulge of the *Śrōṇi* should consist of 4 *aṅgulas* below and 4 *aṅgulas* above the *nābhi-sūtra*.								
The height of the hip below the *Śrōṇi*.	5	4	...	...	...	...	...	...
The width of the hip	12	4	...	...	...	...	...	...
The *Śrōṇi* should be bulging near the hip								

PARTS OF THE BODY MEASURED.	MEASUREMENTS ACCORDING TO THE							
	SILPARATNA.		AMŚUMADBHĒDĀGAMA.		KĀRAṆĀGAMA.		VAIKHĀNASĀGAMA.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
DISTANCES OR INTERSPACES (*Upamāna*)—*contd.*								
Measurements of the width on the sides—contd.								
The glutials should be raised from the root of the thighs.								
The *nīvra* of the *Śrōṇi*	4	4	...	...	...	...	...	...
The outline of the side of the body from the armpit to the abdomen should be slanting and the total slant is	2	4	...	...	...	...	...	...
In the case of Śiva the neck above the *hikkā-sūtra* should be blue in colour.								
The height of the nipples from the chest.	2	0	...	...	...	...	...	...
The diameter of the nipples . .	2	1	...	...	...	...	...	...
The height and diameter of the nut of the nipple (*chūchuka*).	0	2	...	...	...	...	...	...
The width of the navel . . .	1	2	...	...	...	...	...	...
The spiral in the navel should be clockwise.								
The width of the navel at the bottom	0	2	...	...	...	...	...	...
The width at base of the penis .	4	0	...	...	...	...	...	...
The length of the penis . . .	5	2	0	0	5	1	...	...
Its width	2	1	...	...	...	...	...	...
The proportion between the shaft and the nut of the penis is as 2 to 1.								
The width of the nut where it joins the shaft should be greater than that of the shaft by one *yava*. The *Kāraṇāgama* states that the width of the shaft is ⅛th less than that of the nut.								
The nut of the penis should resemble in shape the bud of a *nīlōtpala* flower.								
The length and width of the testes.	4	4	...	...	4	0	...	...
Their thickness	3	4	...	...	...	...	...	...
The thigh just below the testes should be fleshy and well developed.								
The width at the back of the knee-joint	4	2	4	2	...	...	...	...
The thickness of the knee-joint .	2	4	2	4	...	...	...	...
The middle and the sides of the body should be modelled beautifully.								
According to the *Vaikhānasāgama*, there should be marks resembling the *chakra* and *Śaṅkha* on the sole of the feet.								

Parts of the body measured.	Measurements according to the							
	Śilparatna.		Aṃśumad-bhēdagama.		Kāraṇāgama.		Vaikhānasāgama.	
	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.	Aṅg.	Yava.
Distances or Interspaces (*Upamāna*)—*concld.*								
Measurements of the width on the sides—concld.								
The image should be made beautiful so as to produce a pleasing effect on the eye of the observer.								
The upper portion of the body (above the *madhya-sūtra*) should be exactly equal in length to the lower portion.								
In the sculpturing of the various limbs of the image, deviations of about one to six *yavas* from the standard measurements given above may occur and the resulting image, therefore, should not be treated as of faulty proportions. The artist may model images as well as he can and with due proportions.								

For measuring lengths along plumb-lines, an instrument called the *Lamba-phalakā* is employed. It is a plank two *aṅgulas* in thickness and measuring 68 *aṅgulas* in length and 24 in breadth. All round the plank a margin of 3 *aṅgulas* is left. A small hole, just a trifle larger than a *yava* in diameter, is bored in the centre of the margin along the length of the plank; this hole is meant for the *madhya-sūtra*. Other holes are bored for the *puṭa-paryanta-sūtra* (*nāsā-puṭa-sūtra*), *nētra-paryanta-sūtra*, *karṇa-paryanta-sūtra*, *kaksha-paryanta-sūtra*, and *bāhu-paryanta-sūtra*, in places marked on the accompanying diagram



SCALE 1″=8 AṄGULAS *Fig. 1.* LAMBA-PHALAKA

of the *Lamba-phalakā*. Through these are suspended by strings which are one *yava* in thickness, small plummets of iron or clay. In the case of reclining

figures the *sūtras* are strings stretched horizontally in front of the figure which is in the process of modelling. In the case of the *sthānaka-mūrti*, the *madhya-sūtra* which is suspended from the *śikhāmaṇi* (crest-jewel) set in front of the *kirīṭa* (crown) of the image, should pass through the middle of the forehead, between the brows, the middle of the nose, the neck, the chest, the abdomen, the private part and between the legs; it should touch the body at the tip of the nose and the middle of the abdomen. The top of the crown should then be 6 *aṅgulas* behind the *madhya-sūtra;* the middle point of the chin $\frac{1}{8}$ *aṅgula;* the *hikkā-sūtra,* 4 *aṅgulas;* the middle of the chest, $2\frac{1}{2}$ *aṅgulas;* the navel, $1\frac{3}{4}$ *aṅgulas;* the root of the penis, 2 *aṅgulas;* the middle of the thighs, 3 *aṅgulas;* the knee-joint 8 *aṅgulas;* the shin bone, 16 *aṅgulas;* of the total length of the great toe a portion measuring half an *aṅgula* is to be in front of the *madhya-sūtra* while the remaining portion of it, measuring $2\frac{1}{2}$ *aṅgulas,* is to be behind the *madhya-sūtra.* The *bāhu-paryanta-sūtra,* which is also known as the *aṅga-pārśva-madhya-sūtra,* should pass through the middle of the side jewel of the crown, the head, the sides of the ear, the inner side of the upper arm, the elbow, and the middle of the knee, the foreleg and the foot. The other *madhya-sūtra* which is hung behind the middle of the back, should pass through the middle of the back of the crown, the head, the nape of the neck, the back-bone, between the two glutials, and the heels. The *vaktra-bāhya-sūtra* should pass by the side of the head, through the extremity of the mouth, side of the cheek, end of the chin, side of the *śrōṇi,* and the middle of the thigh and the foreleg.

All the six *sūtras* mentioned above should be suspended as far below as the *pīṭha* or pedestal on which the image is made to stand, whereas other *sūtras,* which are required for taking the measurements of particular limbs of the body, may be suspended as far as the lower extremity of those limbs.

The *nāsā-puṭa-sūtra* is also called the *dṛigantari-sūtra,* that is, the line passing through the inner margin of the eye near the nose. This *sūtra* also passes through the extremity of the mouth and is the same, therefore, as the *vaktra-bāhya-sūtra.* The *antarbhujāvadhi-sūtra* is the same as the *kaksha-paryanta-sūtra,* and is also sometimes called the *aṅga-pārśva-madhya sūtra,* a term which means the line which is to pass through the middle of the side of the body. The *sūtra* which passes through the back of the head, and is known as the *śirah-prishṭhāvasāna-sūtra,* is also the outer limit of the back hands of a figure with four arms.

Different names are given to the same *sūtra,* according as it is viewed from the front or the side of the *Lamba-phalakā;* for example, the *kaksha-paryanta-sūtra,* when viewed from the front of the *Lamba-phalakā,* is seen passing just in front of the arm-pit, and is therefore called the line that forms the limit of the arm-pits; the same *sūtra* when viewed from the side is seen passing just in front of the *bhuja* or the upper arm; hence it is called the line which forms the boundary of the inner upper-arm, or *antarbhujāvadhi-sūtra.*

If the image is a seated one, the six *sūtras* should be suspended as far as the *pīṭha* on which it is seated. The distance between the two knees in a

figure seated with crossed legs, as in the *yōgāsana* posture, is equal to half the total height of the corresponding standing figure, that is, 62 *aṅgulas*.

Madhyama-daśa-tāla.

It has already been stated that the principal deities, Vishṇu, Śiva, and Brahmā, should be represented by images made according to the *Uttama-daśa-tāla* measurement, and the details of the various parts of the human body according to this system have been given already. Let us proceed now with the description of the *Madhyama-daśa-tāla* measurement (Fig. (*b*), Plate IX).

The images of Umā, Sarasvatī, Durgā, Ushā, Bhūmi, Lakshmī, Jyēshṭhā and the Mātṛis should be sculptured according to the *madhyama-daśa-tāla* measurement. It is needless to inform the reader that Umā, Sarasvatī, Ushā, Bhūmi and Lakshmī are the consorts (*Śaktis*) respectively of Śiva, Brahmā, Sūrya and Vishṇu. Images of the *Śaktis* above mentioned are said to be of the *Uttama* (superior) variety, if they are made as high as the nose of the images of their respective husbands; they are of the *adhama* (inferior) variety if they are as high as the chest of their lords. If the distance between the nose and the chest of the male deities referred to above is divided into eight equal parts, nine images of each of the female deities could be made with their heights equal to the nine different heights arrived at in this way. These nine different images of varying heights are respectively called the *Uttamōttama*, *Uttama-madhyama*, *Uttamādhama*; *Madhyamōttama*, *Madhyama-madhyama*, *Madhyamādhama*: *Adhamōttama*, *Adhamamadhyama* and *Adhamādhama* varieties of images of the *Madhyama-daśa-tāla* measure. Or, the height of the nine varieties of images might also be obtained by taking the *Uttamōttama* and *adhamādhama* limits as the *hikkā-sūtra* (the horizontal line drawn across the neck touching the two shoulder tops), and the *Stana-sūtra* (the horizontal line connecting the two nipples), of the male figure, and dividing the distance between these into eight equal parts. When the male deities are in any other attitude except the vertically erect one, as for instance, sitting, dancing, etc., the Śaktis of the above mentioned male deities should be made only with reference to the heights of these latter when they are standing erect (*Sthānakamūrtis*).

There is yet another way in which the heights of Durgā, Jyēshṭhā, Lakshmī and the Sapta-mātṛikas can be determined, and it is with reference to the height of the *liṅga* set up in the central shrine of a temple.

In sculpturing the *Śaktis* in obedience to the *āgamic* rules, the artist should execute the work according to the dictates of his artistic instinct. The images of the female deities if made in a standing posture should be sculptured with their feet kept close to each other (*Sama-pāda*).

The height of the image of a female deity being thus determined, it is divided into 120 equal parts; each of these divisions is called an *aṅgula*, and this *aṅgula* is further divided into eight equal parts, each of which is equal to a *yava*. The measurements of the various parts of the human body are given in tabular form in terms of the *aṅgula* and *yava* thus obtained.

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements (made in front).				
The width of the *Ushṇīsha*	1	..	..	..
From the lower edge of the *Ushṇīsha* down to the end of the front hair.	3	..	..	..
The width from *ushṇīsha* to the end of the front hair .	..	..	4	..
The distance from the end of the front hair to the *nētra-sūtra* (*see* figure).	4	6	4	2.2/3
From the *nētrasūtra* to the *nāsāpuṭasūtra* . .	4	4	4	2.2/3
From the *nāsāpuṭasūtra* to the chin . . .	3	6	4	2.3/3
The height of the neck	4	..	4	..
From the *hikkā-sūtra* to the *stanasūtra* . . .	13	..	13	..
From the *stanasūtra* to the *nābhisūtra* . . .	13	..	13	..
From the *nābhisūtra* to the *yōnisūtra* . . .	13	..	13	..
From the *yōnisūtra* to the knee joint . . .	26	..	26	..
The width of the knee-cap	4	..	4	..
The length of the foreleg	26	..	26	..
The height of the foot from the ground . . .	4	..	4	..
Total .	120	..	120	..
II.—Minor measurements.				
(a) *The face.*				
i. *Ushṇīsha and the hair.*				
From the crown of the head to the end of the back hair	..	..	13	..
From the crown of the head to the end of the front hair	..	..	7	..
From the crown of the head to the end of the side hair	..	..	9	..
The face should be oval in shape.				
The width of the face at the top	11	..	..	..

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
ii. *The eye and the brow.*				
The length of the brow	..	..	5	..
The width at the middle of the brow . . .	..	..	..	1
The distance between the end of the front hair (*kēśāntam*) to the eye-brows.	2	4	2	*i.e.*, from the highest point of the brows to the *kēśāntam*.
From the highest point in the brow to the *nētra-sūtra*.	2	2	..	..
The brow should be tapering at both its ends and should resemble the stringed bow.				
The distance between the inner ends of the brow .	1	..	..	..
The distance between the two eyes . . .	..	..	2	2
The length of the eye	..	..	2	2
The width of the eye	..	..	1	..
The width of the upper eye-lid	..	..	..	2
The width of the lower eye-lid	..	..	..	½
The diameter of the eyeball should be a third of the length of the eye.				
The point called *dṛishṭi* in the middle of the pupil (*Jyōtirmaṇḍala*) of the eye.	..	..	..	$\frac{1}{3}$
The eye should have, in their places, the white, red and black colours.				
iii. *The nose.*				
The end (tip ?) of the nose below the *nāsāpuṭasūtra* .	1	1	..	..
The width of the nose at the upper end . . .	..	..	..	4

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
iii. *The nose*—contd.				
The width of the nose at the lower extremity . .	..	..	1	1
The width of each *nāsāpuṭa* (the wing of the nose) .	..	..	..	4
The height of the *nāsāpuṭa*	..	..	..	4
The thickness of the *nāsāpuṭa*	..	..	..	4
The width of the nostril	..	..	..	3
The width of the *vaṁśa* (the bridge of the nose) .	..	..	1	..
iv. *The measurements of Gōjī.*				
The length of the *Gōjī*	..	4½	..	4
The width of the same	..	2¼	..	2
The distance between the *Gōjī* and the tip of the nose.	2	..	..	..
v. *The measurement of the lips.*				
The length of the upper lip	..	..	4	..
Its width	..	..	..	3
The upper lip should be sculptured with three curves in it.				
The length of the lower lip	..	..	2	..
Its width	1	1	1	1
The lower lip should be shaped like the *arddha-chandra* (half-moon) and be of the fine red colour of the Bimba fruit (Tam. *Kōvai*)...............				
vi. *The measurement of the teeth.*				
There should be sixteen teeth in the upper jaw and sixteen in the lower jaw.				
The width of each of the upper (front) teeth . .	..	..	..	2
The width of each of the lower (front) teeth . .	..	..	..	1

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula	Yava.
II.—Minor measurements—*contd.*				
vii. *The measurement of the chin.*				
The portion just below the lower lip forms a hollow between the lower lip and the chin and is called the *chibuka*.				
The length of the *chibuka*	..	..	..	4
Its depth	..	..	..	1
The lower lip should rise up from the *chibuka*.				
The chin is called the *hanu* ; its length . . .	..	..	3	..
The distance between the chin and the ear . .	3	4	..	..
viii. *The measurements of the ear.*				
The top of the ear should be on a level with the *bhrū-sūtra*.				
The distance between the outer end of the eye to the root of the ear.	..	..	6	7
The length of the ear	4	2	4	..
The width of the ear	2	..	2	..
The length of the hanging lobes of the ear (*nāḷa*).	5	..	5	4
The width of the back *nāḷa*	..	7	..	..
That of the front	..	4	..	..
The thickness of each *nāḷa* should be one half of their width and the *nāḷas* should bear ornaments.				
The thickness of the anti-tragus (*karṇa-pippalī*) .	..	..	..	4
The depth of the (cup of the) ear	..	..	..	4
Karṇa-paṭṭī (?)	..	..	..	
The distance as measured across the face, between the ears.	..	..	20	..

Details of measurements.	According to the Aṁśumadbhēda.		According to the Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
(b) *The neck.*				
The width of the neck at the top	7	..	7	..
The same at the bottom	8	1	8	1
(c) *The chest.*				
The distance between the *hikkāsūtra* and the *stana-sūtra* (the line joining the nipples).	..	..	12	..
The diameter of the breast (in female figures) . .	9	..	9	4
The diameter of the dark circle round the nipple (*akshi-maṇḍala*).	3	..	2	..
The height of the breast (above the chest) . .	4	4	10 (?)	..
The height of the nipple (above the breast) . .	..	4	..	2
The breast and the nipple should be beautifully spherical in shape.				
The width of the interspace between the breasts .	..	$\frac{1}{8}$	..	..
The distance between the shoulders along the *stana-sūtra*.	31	..	32	..
The distance between the armpits (*kakshas*) . .	..	..	18	..
The width of the chest just below the breasts . .	13	4	14	..
(d) *The abdomen and the pubic region.*				
The width at the place where the chest ends and the abdomen begins (*madhyapradēśa*).	11	..	11	..
The width of the abdomen along the *nābhisūtra* (this region is called the *śrōṇi-dēśa*).	20	1	20	..
The whorl in the navel should be turned clockwise.				
The width of the navel and its depth, each . .	..	6	..	{ 6 2
The region just above the pudendum (*yōni*) is known as the *katipradēśa*. The width of this region.	24	..	26	..

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The elevated portion where the *yōni* is, is called the *yōni-pīṭha* ; its width.	7	..	..	..
The *yōni* should terminate like the leaf of the pipal tree.				
The width of the *yōni* at the top	4	..	5	..
The same at the bottom	..	..	1	..
The height of the *yōni* should be equal to its width (?)				
The *yōni* should be fleshy and be of gradually decreasing width from the top to the bottom.				
(e) *The legs.*				
The width of the thigh at the top	12	..	12	..
The width of the thigh at the middle . . .	..	..	11	..
The width of the thigh at the end	..	..	9	..
The width of knee-cap	7	..	8	..
The width of the foreleg at the top	..	..	7	1
The width of the foreleg at the middle . . .	6	..	6	.
The width of the shin bone (*naḷaka*) . . .	4	..	4	..
The distance between the inner bony projections at the ankle.	5	..	5	..
The width of the foot at the heel	4	..	4	..
The width of the same in the middle . . .	5	..	5	..
The width of the same at the toe-end . . .	6	..	6	..
The length of the foot from the heel to the end of the great toe.	16	..	..	..
The length between the ankle and the heel . .	..	..	4	..
The height of the heel from the ground . . .	..	..	4	..

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The height of the foot at the toe end	..	..	2	..
The length of the great toe and the one next to it .	4	..	4	..
The length of the middle toe	3	4	3	..
The length of the next to this and the small toe .	3	..	2	4
The length of the small toe	2	4	2	..
The width of the great toe	2	..	1	4
The width of the toe next to it	1	..	1	1
The width of the middle toe	..	7½	1	..
The width of the toe next to it	..	7	..	7½
The width of the small toe	..	6	..	6
According to the *Aṁśumadbhēdāgama*, the width of the nail of each toe is to be equal to two-thirds of their width and the length of the nails three-fourths of their respective widths; the shape of the nails of the toe is oval (*vṛittāyata*); but the *Kāraṇāgama* states that the width of the nails of the toes should be only one half the width of the latter.				
(f) *The arms.*				
The length of the upper arm (from the *hikkā-sūtra* to the elbow).	26	..	26	..
The length of the elbow	22	..	..	..
The length of the forearm	18	..	20	..
The length of the palm of the hand from the wrist to the roots of the fingers.	7	..	6	4
The width at the top of the upper arm	..	..	6	..
The same at the middle (along the *stana-sūtra*) .	6	..	6	4
The same at the end	7	..	7	..
The length of the middle finger	6	..	6	4

Details of measurements.	According to the Aṁśumadbhēda. Aṅgula.	Aṁśumadbhēda. Yava.	Kāraṇāgama. Aṅgula.	Kāraṇāgama. Yava.
II.—Minor measurements—*contd.*				
The length of the index finger	5	..	4	5
The length of the ring finger	5	..	4	6
The length of the little finger and that of the thumb	4	..	4	..
The width of the thumb	1	1	1	2
The width of the index finger.	..	7	..	7½
The width of the middle finger	..	6	..	6
The width of the ring finger	..	7	..	7½
The width of the little finger	..	6	..	6
The width of each finger at its tip should be less than the width at the base by one-eighth.				
The width of the nail of each finger should be two-thirds of its width at the tip.				
The width of the nail of the thumb . . .	..	..	..	7½
The width of the nail of the index finger . . .	..	..	..	4½
The width of the nail of the middle finger . .	..	..	..	5½
The width of the nail of the ring finger . . .	..	..	..	4½
The width of the nail of the little finger . . .	..	..	..	3
The length of the nail of each finger should be equal to its width *plus* two *yavas*.				
The thumb has only two digits, while the other fingers three.				
There should be three lines traced on the palm of the hand.				
The thickness of the palm of the hand at its finger end should be less than that at the wrist end by an eighth part.				
The width of the elbow	5	..	5	2
The width of the wrist	3	..	3	2

Details of measurements.	According to the			
	Aṁśumadbhēda.		Kāraṇāgama.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*concld.*				
The forearm should taper from its top to the bottom, from the elbow to the wrist, like the shoot of the bamboo.				
The whole of the leg should resemble the trunk of an elephant and the whole of the hand, the tail of a cow.				
(g) *Measurements at the back.*				
The width of the glutials	..	..	7	..
The height of the glutials from the root of the thigh.	..	..	3	..
The vertical distance between the nape of the neck and the waist.	..	..	26	..
From the waist to the end of the bladder (*mūtrāśaya* called also *basti*).	..	..	13	..
The distance between the arm pits at the back .	..	..	21	..
The height of the nape of the neck	..	..	4	..
Its width	..	..	12	..
The height of the neck, at the back, above the *hikkā-sūtra.*	..	..	4	..
Its width, its top and bottom	..	..	2	4
The distance, at the back, between the two ears .	11	4	11	4
The rest of the limbs which are not mentioned here should be sculptured according to the *Uttama-daśa-tāla* measure.				

Having given a general sketch of the measurements for all Śaktis, the *Aṁśumadbhēdāgama* proceeds to give the description of certain special features of the image of Gaurī.

The figure of Gaurī should have two eyes, two arms, a smiling mouth and a happy face. The head should be adorned with a *karaṇḍa-makuṭa*, *kirīṭa-makuṭa* or *kēśabandha*, whichever would tend to make the image beautiful. The

makuṭa is considered to be of the *adhama* variety if its height is 18, *madhyama* if it is 21, and *uttama* if it is 24 *aṅgulas*. The girth of the *makuṭa* at its lower end should exceed the girth around the scalp of the head by one *yava*. The *makuṭa* should be tapering from the bottom to the top, and the width of the *makuṭa* at its top should be less by one-seventh or one-eighth than that at its lower end. The top or finial of the *karaṇḍa-makuṭa* should resemble the bud of the lotus; this sort of *makuṭa* may have three, five or seven *karaṇḍas* or tiers, and should have four *pūrimas* (heart-shaped flat ornamented discs on the four sides of the *makuṭa*). The *karaṇḍa-makuṭa* itself should be adorned with different kinds of flowers. The other ornaments which are mentioned as necessary for adorning the figure of Gaurī are the flat fillet (*lalāṭa-paṭṭa*) which is tied over the forehead; *upagrīva, hāras, chhannavīra and yajñōpavīta;* pearl necklaces round the neck; *makara-kuṇḍalas* or circular *patra-kuṇḍalas* in the ears; *kaṭaka* on the forearm; *kēyūra* with *pūrima* on the upper arm, and *kaṭisūtra* or girdle round the waist.

The colour of Gaurī may be dark, but she should be sculptured as a very pretty woman with lovely breasts; there should be an *utpala* flower in her right hand, and the left arm should be hanging freely by her side.

Daśa-tāla according to the Śukranīti.

Parts measured.	Aṅgula.	Yava.
The length of the face	13	..
The length of the neck	5	..
From the *hikkā-sūtra* to the *stana-sūtra*	13	..
From the *stana-sūtra* to the *nābhi*	13	..
From the *nābhi* to the *mēḍhra*	13	..
The length of the thighs	26	..
The length of the knees	5	..
The length of the foreleg	26	..
The height of the foot	5	..
Śikhāmaṇi	1	..
TOTAL .	120	..

Parts measured.	Aṅgula.	Yava.
The length of the arms	50	..
The length of the foot	15	..
The length of the foot will be greater or less by one *aṅgula* in the other *tāla mānas*, according as they are of the higher or the lower order.		
The length of the arms in other *tāla-mānas* will either be greater or less by 2 *aṅgulas*, as the *mānas* are of the higher or the lower order.		
The proportions of all the *tāla-mānas* may be determined with reference to the *nava-tāla*, making it the standard *tāla-māna*.		
In all the *tāla-mānas* the length of the middle finger should be between 5 to 6 *aṅgulas* and no more or less.		

Adhama-daśa-tāla.

The *Adhama-daśa-tāla* measurement (Fig. (a) Plate X) is prescribed for making images of the Ṛishis, the Aśvinīdēvatās, Sūrya, Indra, Śāstā, Chandra, Chaṇḍēśvara, Kshētrapālaka and others. In this system of measurement, the total height of the image is divided into 116 parts, each one of which is taken to be an *aṅgula*; the *aṅgula* is, as in other instances, divided into 8 *yavas*.

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements.				
The height of the *ushṇīsha*	1	..	1	..
The distance from the *ushṇīsha* to end of the front hair (*kēśāntam*).	3	..	3	..
From the end of the front hair to the end of the chin.	12	4	12	4
The height of the neck	4	..	4	..
The distance from the *hikkāsūtra* to the middle of the chest (*stanasūtra*).	12	4	12	4
From the *stanasūtra* to the navel (*nābhi*) . .	12	4	12	4

Details of measurements.	According to the Kāraṇāgama. Aṅgula.	Kāraṇāgama. Yava.	Aṁśumadbhēda. Aṅgula.	Aṁśumadbhēda. Yava.
I.—Major measurements—*contd.*				
Between the nābhi and the root of the penis (*mēḍhra-mūla*).	12	4	12	4
From the *mēḍhramūla* to end of the thigh . .	25	..	25	..
The length of the knee-cap	4	..	4	..
The length of the foreleg	25	..	25	..
The height of the foot from the ground . . .	4	..	4	..
Total .	116	..	116	..
II.—Minor measurements.				
(a) *The face.*				
i. *Ushṇīsha and the hair.*				
From the crown of the head to the end of the back hair.	12	4	12	4
From the same to the end of the front hair . .	5	..	5	..
From the same to the end of the side hair . .	8	..	8	..
ii. *The eye and the brow.*				
The distance between the end of the front hair and the chin should be divided into three equal parts; of this, the topmost part is the distance from the end of the hair to the *akshisūtra*; the middle one is equal to the length of the nose and the lowermost one represents the distance between the *nāsāpuṭa sūtra* and the end of the chin.				
The distance of the middle of the brow from the end of the front hair.	2	1	2	1
The length of the brow	5	..	5	..
The width of the brow at its middle . . .	..	1	..	1
The brow should be tapering at both its ends and should resemble the thin crescent of the moon.				

Details of measurements.	According to the Kāraṇāgama.		According to the Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava
II.—Minor measurements—*contd.*				
The distance between the two eyes	2	1	2	1
The length of the eye	2	1	2	1
The width of the eye	..	6	..	6
The width of the upper eyelid	..	$\frac{1}{2}$	..	$\frac{1}{2}$
The width of the lower lid	..	$\frac{1}{2}$	..	$\frac{1}{2}$
That of the *karavīra* (?)	..	1	..	1
The diameter of the eye-ball should be a third of the length of the eye.				
The diameter of the *jyōtirmaṇḍala* of the eye (or the pupil).	..	1	..	1
The width of the point in the eye-ball which is called the *dṛishṭi*.	..	$\frac{1}{8}$	..	$\frac{1}{8}$
The *nētra-sūtra* should pass along the length of the lower eye-lid.				
iii. *The nose.*				
The width of the nose at its upper end	..	3	..	3
The same at the lower end	1	..	1	..
The width of the *nāsāpuṭa* or the wing of the nose.	..	4	..	..
The height of the *nāsāpuṭa*	..	4	..	..
The thickness of the septum between the nostrils (*vaṁśa*).	..	4	..	..
The thickness of the wing of the nose	..	$\frac{1}{2}$	..	..
iv. *The Gōjī.*				
The length of the *gōjī*	..	3	..	..
The width of the *gōjī*	..	$1\frac{1}{2}$	..	..

Details of measurements.	According to the Kāraṇāgama.		According to the Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—MINOR MEASUREMENTS—*contd.*				
v. *The lips.*				
The length of the upper lip	4	..	..	..
Its width	..	3	..	..
It should have three bends.				
The length of the lower lip	2	..	2	..
Its width	1(?)	..	1(?)	..
vi. *The chin.*				
The width of the depression below the lower lip and above the chin is called the *chibuka ;* its length.	..	2	..	2
Its width	..	2	..	2
Its depth	..	½	..	½
vii. *The ear.*				
The top of the ear should be on a level with the *bhrūsūtra.*				
The distance between the outer end of the eye and the root of the ear.	6	6	..	..
The length and width of the ear	2(?)	..	..	..
The depth of the external ear	..	4	..	..
The width of the *karṇa-pippalī*	..	4	..	..
The length of the hanging lobe (*nāḷa*)	2	..	The ear should be sculptured as described in the *uttama-daśa-tāla* measurement.	
The width of the front *nāḷa*	..	4		
That of the back *nāḷa*	..	7		
The thickness of each of the *nāḷas* shall be half of its width.				
The distance between the two *nāḷas*	1	..		

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The width (?) of the *karṇapaṭṭī* (?)	..	2	..	..
The distance, measured across the face, between the two ears.	35(?)	..	..	..
The distance, measured behind the head, between the two ears.	12	..	..	..
(b) *The neck.*				
The width of the neck at the top	7	4	7	4
The width of the neck at the bottom	8	..	8	..
(c) *The chest.*				
The width of the chest	27	..	37(?)	..
The vertical distance between the *hikkā-sūtra* and the armpits.	8	..	8	..
The distance between the armpits measured across the chest.	32(?)	..	22	..
The width of the chest at its lower end (*madhya-pradēśa*).	18	..	18	..
The diameter of the circle round the nipple	..	4	..	4
The height and diameter of the nipple	..	2	..	2
The distance between the two nipples	12	4	12	4
(d) *The abdomen and the pubic region.*				
The width of the abdomen	17	..	17	..
The width of the *śrōṇipradēśa* (about the navel)	18	..	18	..
The width at the hip	18	..	18	..
The width of the navel	..	6	..	6
The depth of the navel	..	½	..	½

Details of measurements.	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*contd.*				
The length and width of the testes	4	..	4	..
The length of the male organ	5	..	5	..
It should resemble the bud of the *nīlōtpala* flower.				
(e) *The legs.*				
The width of the thigh at its upper end . . .	12	4	12	4
The same at its lower end	9	4	9	4
The width of the knee-cap	8	4	8	4
The width of the calf at its middle	8	..	8	..
The width of the foreleg at its lower end . .	6	4	6	4
The width of the shin-bone	4	4	4	4
The width of the foot at the toe-end . . .	6	..	6	..
At its middle	5	..	5	..
The length of the foot from the root of the great toe to the heel.	12	4	12	4
The length of the great toe	4	..	4	..
The length of the second toe	4	1	3	6(?)
The length of the middle toe	4	1	3	6
The length of the iourth toe	4	..	4	..
The length of the little toe	3	4	3	4
The width of the little toe	..	7	..	7
The width of the fourth toe	1	..	1	..
The width of the middle toe	1	1	1	1
The width of the second toe	1	2	1	2
The width of the great toe	1	5	1	5

Details of measurements.	According to the Kāraṇāgama. Aṅgula.	Kāraṇāgama. Yava.	Aṁśumadbhēda. Aṅgula.	Aṁśumadbhēda. Yava.
II.—Minor measurements—*contd.*				
The width of the toes at both the ends is to be the same.				
The length and width of the nails of the toe should be equal to two-thirds of the width of each toe.				
The thickness of the foot at the root of the great toe.	2	..	2	..
The thickness of the same at the root of the smallest toe.	1	1	1	1
The height of the foot from the joint of the bone of the foreleg with those of the foot.	4	..	4	..
The height of the heel	4	..	4	..
(f) *The arms.*				
The length of the upper arm (*bāhu*) . . .	25	..	25	..
The length of the forearm (*prakōshṭha*) . . .	19	..	19	..
The length of the hand from the lower end of the forearm to the tip of the middle finger.	12	4	12	4
The length of the palm of the hand (*minus* those of the fingers).	6	2	6	2
The length of the middle finger	6	2	6	2
The length of the thumb	2	2(?)	2	2(?)
The length of the ring-finger	4	4	4	4
The lengths of the index finger and the little finger .	4	..	4	..
The width of the thumb	1	2	1	2
The width of the index finger	..	7	..	7
The width of the middle finger	1	..	1	..
The width of the ring-finger	..	6	..	6
The width of the little finger	..	5	..	5

Details of measurements	According to the			
	Kāraṇāgama.		Aṁśumadbhēda.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
II.—Minor measurements—*concld.*				
The width of the nail of each finger should be two-thirds of the width at its tip and the length of each nail should be one *yava* in excess of its width.	..	..	The width of the nail of each finger should be four-fifths of the width at its tip and the length of the nail should be a fourth part greater than the corresponding width.	
The thumb should have two digits, while the other fingers three digits.				
There should be three lines running across the palm of the hand.				
The thickness of the palm of the hand at its wrist end.	2	..	..	..
Its thickness at the root of the fingers should be a eighth part less than that at the wrist end.				
The width of the palm should be equal to its length.				
The width of the wrist	3	2	3	2
The width of the forearm at its upper end . .	5	4	5	4
The width of the upperarm at its lower end . .	6	4	6	4
The width of the same at its middle . . .	7	..	7	..
The width of the upperarm at its upper end . .	8	..	8	..
(g) *The measurements at the back.*				
The width of the back parallel to the *stana-sūtra* .	..	..	25	..
The width and the length of the nape of the neck (*kakud*).	4	..	..	..
The distance between the *hikkā-sūtra* and the lower extremity of the shoulder blade.	4	..	..	..
The distance at the back between the armpits .	24	..	24	..

All other measurements omitted here should be supplied from those given under the *Uttama-daśa-tāla* measurement.

Measurement of images according to the Brihat-Saṁhitā.

The height with its pedestal of the image that is to be set up in a temple, according to the *Bṛihat-saṁhitā*, is seven-eighths of that of the gate of the central shrine. That of the pedestal alone is one-third of the total given above, and the remaining two-thirds is that of the image. The height of the image is divided into 108 equal parts, each of which is said to be an *aṅgula ;* the measurements of the various limbs of the image are given below in terms of this *aṅgula*.

Name of the part measured.	Dimension.	Remarks
	Aṅg.	
The length and breadth of the face, each . .	12	But Nagnajit gives them as 14 and 12 *aṅgulas* respectively. This is the measurement assumed in the Drāviḍa country.
The length of the nose and the ear, the height of the forehead, the chin and the neck should each be	4	
The distance between the tip of the chin from the neck.	2	
The breadth of the chin	2	The place where the face and the neck join is, according to the commentator, the *hanu* (chin).
The length of the forehead (horizontally) . .	8	
Behind the forehead and at a distance of two *aṅgulas* should be what are called the *śaṅkhas*, (?) whose lower parts should be four *aṅgulas* in length.		
The width of the ears	2	
The top end of the ear should be on a level with the *bhrū-sūtra.*		
The distance between the ear and the end of the brow.	1½	
The distance between the outside end of the eye and the ear is		According to Vasishṭha.
The width of the upper lip	½	
The width of the lower lip	1	
The width of the *gōchha* (*gōjī*)	½	
The length of the mouth	4	
The width of the mouth when it is closed (?) . .	1½	

Name of the part measured.	Dimension.	Remarks
	Aṅg.	
The width of the mouth when it is open (?) . .	3	
The length (and breadth ?) of the wings of the nose	2	
The height of the nose	2	
The distance between the eyes	4	
The length of the eyes and their lids . . .	2	
The diameter of the black-ball of the eye should be one-third of the length of the eye and that of the pupil, one-fifth of the black-ball.		
The width of the eye	1	
Distance between the extreme ends of the brows .	10	
The width of the brows	½	
The distance between the inner ends of the brows	2	
Length of the brows	4	
The border line of the hair (*kēśarēkhā*) of the head above the forehead should be of the same length as the combined lengths of the brows.		
The width (?) of this *kēśarēkhā* is said to be . .	½	
It is stated that at the end of the eyes there should be what is called the *karavīraka* (?) whose length is said to be	1	
The girth of the head	32	
The width of the head . . . . . But in a picture only 12 *a sgulas* will be visible, the remaining 20 *aṅgula* will not be visible.	14	Nagnajit states that the length of the face including the *kēśa-rēkhā* is 16 *aṅgulas*.
The width of the neck	10 (?)	
The girth of the neck	21	
The distance between the neck (*hikkāsūtra*) and the chest (*stana-sūtra*).	12	
The distance between the chest (*stana-sūtra*) and the navel (*nābhi-sūtra*).	12	
The distance between the navel (*nābhi-sūtra*) and the penis (*mēdhra-mūla*).	12	

Name of the part measured.	Dimension.	REMARKS.
	Aṅg.	
The length of the thighs	24	
The length of the foreleg	24	
The length of the knee-cap	4	
The height of the foot	4	
The length of the foot	12	
The breadth of the foot	6	
The length of the great-toe	3	
The girth of the great-toe	5	
The length of the second toe	3	
The length of each remaining toe should be one-eighth less than that of the preceding one.		
The height of the great-toe	$1\frac{1}{4}$	
The length of the nail of the great-toe . . .	$\frac{3}{4}$	
That of the nails of the other toes ; or, they may be in the descending order of lengths.	$\frac{1}{2}$	
The width of the foreleg at the top . . .	5	
The girth of the same at the same place . .	14	
The width of the foreleg in the middle . . .	7	
The girth of the same at the same place . .	21	
The width of the knee	8	
The girth of the legs at the knee	24	
The width of the thigh at the middle . . .	14 (?7)	
The girth of the same at the middle . . .	28 (?)	
The width of the pelvis	18	
Its girth	44 (?54)	
The diameter of the navel	1	
Its depth	1	

Name of the part measured.	Dimension.	REMARKS.
	Aṅg.	
The part of the abdomen about the navel is called the *madhya* (*dēśa*) and the girth at the *madhya*.	42	
The distance between the nipples . . .	16	
The distance between the nipple (*stana*) and the armpit (measured vertically ?).	6	
The distance between the neck and the end of the shoulder.	8	
The length of the upper arm . . . . (The same is the length of the forearms of the *parahastas* or the additional arms.)	12 (?)	
The width of the upper arm	6	
The width of the upper arm of the *parahastas* .	4	
The girth of the upper arm at its root . . .	16	
The girth of the arm at the wrist	12	
The length of the palm of the hand . . .	7	
Its width	6	
The length of the index finger should be less than the middle finger by one-half of the digit of the latter.		
The length of the ring-finger is also the same as that of the index finger.		
The length of the little finger should be less than that of the ring-finger by one digit.	..	Images should be sculptured with the peculiarities of form, ornaments, garments, etc., as to suit the nature of the country in which it is made.
The thumb has only two digits, while the other fingers three.		
The length of nails should be one-half the length of the digits of the respective fingers.	..	An image shaped according to the description and dimensions given here will give prosperity to the country.

Uttama-Nava-tāla measure.

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
Ushṇīsha	1	..
The distance between the *ushṇisha* to the root of the hair (*kēśānta*) .	3	..
The distance between the root of the hair to the *akshi-sūtra* . . .	4	..
The distance between the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*).	4	..
The distance between the *nāsā-puṭānta* to the end of the chin (*hanvanta*)	4	..
The height of the neck	4	..
From the lower end of the neck to the middle of the chest (up to the *stana-sūtra*).	12	..
From the chest (*stana-sūtra*) to the navel	12	..
From the navel to the root of the penis (*mēḍhrānta*)	12	..
The length of the thighs	24	..
The length of the knee	4	..
The length of the foreleg	24	..
The height of the foot	4	..
TOTAL .	112	..
Measurements of the head and the face.		
The distance between the root of the hair on the centre of the forehead to the place at the back where the skull ends (measured from front to back).	18	..
The distance between the two ears, both in front and at the back, measured round the skull.	36	..
The width (measured vertically) of the forehead between the *kēśānta* and the lower end of the brow.	3	..
The width from the centre (or the cusp) of the brow to the *kēśānta* .	2	4
The width of the brow at its middle should be . . . . . It should taper from the middle to the end and resemble a stringed bow.	..	4

Parts measured.	Aṅgula.	Yava.
Measurements of the head and the face—contd.		
The length of the hair of the brow at its middle	..	3
That of the hair at the inner end of the brow	..	2
That of the hair at the outer end of the brow	..	1
When man is in deep deliberation over anything, in anger or in astonishment, his brows will contract in length ; whereas when he is in disgust or looks at a thing scrutinisingly, the inner end of the brow will curl up a little.		
The line of the root of the hair above the forehead should form an arc resembling in curvature the shape of the moon on the second day (*dvitīyā*) of the bright fortnight.		
The places where the line of the roots of the hair (*kēśānta-rēkhā*) ends are known by the name *utkshēpa*.		
The outer ends of the brows should be at a level with the *utkshēpas*.		
Measurements of the forehead.		
The end of the region known as the *utkshēpa* (*utkshēpa-pradēsa*) should be straight for two *aṅgulas* from the *sthāpanī-sūtra*. (What is meant by the *sthāpanī-sūtra* and other terms occurring below is not quite clear. A tentative meaning is given in the accompanying diagram for the words *utkshēpa sthāpanī-sūtra,* the *śaṅkha* and the *kūrchcha-rēkhā,* cf. Plate XI Fig. (*a*), and glossary.)		
From the end of the *utkshēpa* and measured across it should be the *kūrchcha-rēkhā,* two *aṅgulas* in length.	2	..
The breadth of the same	1	..
The space between the *kūrchcha-rēkhā* and the outer end of the brows is technically known as the *śaṅkha* and is two *aṅgulas* in width .	2	..
The distance between the anti-tragus (*pippalī*) to the *kūrchcha-rēkhā* .	1	..
The shape of the forehead has thus been described by *Sōmarāja*. (Note the name of this ancient authority on sculpture.)		
Measurements of the nose.		
The length of the nose from the middle of the space between the brows to its tip.	4	..
The place where the nose begins should be slightly depressed from the level of the forehead.		
The width of the nose at the beginning	1	..
The width of the nose at its middle	1	4

Parts measured.	Aṅgula.	Yava.
Measurements of the nose—contd.		
The width of the nose at its end	2	..
The width of the wings of the nose	..	4
The width of the nostrils under ordinary circumstances should be just so much as to admit the small finger. But during fatigue, heavy breathing, laughter, anger, passion, etc., the nostrils would become wider.		
The shape of the nose is like the flower of sesamum plant.		
Measurements of the eye.		
When the eye is open the eye ball should be projecting half an *aṅgula* in front of the eyelids.	..	4
When the eyes are closed, the width of the upper eyelid . . .	1	..
The length of the eyelids when the eye is open	..	4
The length of the eyes	2	..
Their width	..	1
The length of the whites of the eye on either side of the black-ball (each).	..	5
The diameter of the black-ball of the eye	..	5
The diameter of the pupil (*dṛishṭi*)	..	1
The eye should terminate in small lumps of red flesh and must taper towards both its ends.		
The black-ball of the eye should be slightly raised above the general level of the eye.		
Measurements of the ear.		
The cheeks should extend as far as the anti-tragus (*karṇa-pippalī*).		
The cheeks should be two *aṅgulas* in height	2	..
The distance between the anti-tragus and the outer end of the eye .	5	..
The length of the ear at the place where it joins the cheek . . .	3	..
The length of the ear below this place	3	..
The length of the ear above this place	1	..
The deep line running round the edge of the ear should be oval in shape ; its length	6	..

Parts measured.	Aṅgula.	Yava.
Measurements of the ear—contd.		
The inner contour line of the ear should be also similar to the outer one and the distance between them at the beginning	..	4
The inner contour line of the ear should be also similar to the outer one and the distance between them in the middle	..	2
The inner contour line of the ear should be also similar to the outer one and the distance between them at the end	..	4
There should be at the place where the ear meets the cheek the anti-tragus (*karṇa-pippalī*) which should resemble the fruit of *pippalī* ; its length	1	..
Behind it should be the hole of the ear ; its width	..	4
Behind the *pippalī* a portion of the inner ear resembles the (Grantha) letter *la* (@) which is half an *aṅgula* in length and 3 *yavas* in width.		
The space between the margin of the ear and the hole is called the *piñchhūshī* (it is called elsewhere *piñchhalī*). The place where the *la*-like member joins the lower part of the *piñchhūshī* is raised into a ridge known as the *chūlī*. Its length	..	4
And its width	..	2
The width of the ear at its top	2	2
The width of the ear at its middle	2	..
The width of the ear at its bottom	1	6
The lobe of the ear bored and lengthened is here called the *karṇa-pālī*, (elsewhere it is named the *nāḷa*).		
Its length	4	..
Its width	..	4
The region outside the ear-hole is known as the *utpāta*.		
The ear lobes of the *munis* (a class of mendicants) and children whose ears are not bored should be in length	1	..
Measurements of the lips.		
Below the lower end of the nose there should be the region of the moustache known as the *smaśru-dēśa* ; its width	..	4
In the centre of this *smaśru-dēśa* there should be the depression resembling a water-channel and which is known as the *gōjī* ; its length .	..	4
Its width	..	3

Parts measured.	Aṅgula.	Yava.
Measurements of the lips—contd.		
Below the *gōjī* should be the upper lip ; its length	4	..
Its width at its centre . . . . and it should be gradually tapering at both the ends.	..	5
Bounding the edge of the upper lip along its whole length there should be a slightly elevated line.		
The length of the lower lip	4	..
The places where the two lips meet are called the *sṛikva* and these should be directly below the pupils of the eyes.		
During laughter, fear and weeping the *sṛikvas* will recede one *aṅgula* beyond their normal position and will contract by one *aṅgula* in the acts of sucking, kissing, etc.		
Descriptions and measurements of the teeth.		
In ordinary smiling six teeth above and six teeth below will become visible.		
The length of the teeth in the upper jaw	..	5
The length of the teeth in the lower jaw	..	3
The two middle teeth, the incisors, in the upper jaw are called the *rāja-danta* (the king among teeth).		
The two teeth, one on each side of the *rāja-dantas*, that is, the teeth next to the *rāja-dantas* are called the *madhya* (*danta*).		
The two teeth, one on each side of the *madhya*, *i.e.*, the canine teeth, are called the *paripakshaka*.		
The two middle teeth in the lower jaw are called the *sandaṁśa*.		
The two teeth, one on each side of these, are called the *karttana*.		
The two teeth, one on each side of the *karttana*, are called the *khaṇḍana*.		
The teeth should be close to each other, shining and beautiful.		
The lower jaw.		
The lower jaw is attached at the place where the ears are joined to the cheeks. It is called the *chalāsthi* or the moveable bone. This bone should gradually taper towards the chin.		
The fleshy, dimpled part of the chin immediately below the lower lip is called the *chibuka*. The chin itself seems to be called the *hanu*. If there is to be a beard, it should be one *aṅgula* in length (?). A sixteen years old youth will have a beard one *yava* in length.		

Parts measured	Aṅgula.	Yava.
Measurements of the neck.		
The length of the neck	4	..
Its width	8	..
Its girth	24	..
Measurements of the chest.		
The distance between the *hikka-sūtra* and the chest (*hṛidaya*), that is, the line joining the nipples (*stana-chūchuka*).	12	..
The length of the clavicles (collar bones)	8	..
The collar bones should be projecting a little over the *hikkā-sūtra*.		
The distance between the centre of the two nipples	12	..
The diameter of the black circle round the nipples	2	..
The height of the nipples of the males	..	1
The height of the nipples of the females	..	2
The circumference of the breasts of females	18	..
The interspace between the breasts of women and the armpit is called the *brahatī* and the space between the breasts is known by the name of *vārdhā*; its width is given as	2	..
The distance between the base of the breast and the armpit, that is, of the *brahatī*, is said to be	6	..
(The measure given perhaps indicates the double the actual distance, being the total of the two *brahatīs*; for, it is too much for one *brahatī*.)		
The distance between the armpits measured in front	12 (?)	..
The distance between the armpits measured at the back . . .	12	..
The girth of the arm (?) at the armpit	24	..
The distance between the *vārdhā-dēśa* to the navel	12	..
The girth of the chest at the *vārdhā-dēśa*	51	..
Measurements of the abdomen and below.		
The navel should be circular in shape and be of one *aṅgula* in diameter.		
The girth of the abdomen at the *madhya-bhāga* (the place where the thorax meets the abdomen).	42	..

Parts measured.	Aṅgula.	Yava.
Measurements of the abdomen and below—contd.		
The width of the *madhya-bhāga*	14	..
The *madhya-bhāga* in women should be slender ; the girth of the *madhya-bhāga* in women	34	..
The width of the abdomen measured along the *nābhi*	16	..
The girth of the same	48	..
The region of the abdomen on a line with the navel is called the *śrōṇi-dēśa*.		
The region of the abdomen below the *śrōni-dēśa* and immediately above the intestines (? *pakvāśaya*) is known as the *kaṭi-pradēśa* ; the width at the *kaṭi-pradēśa*	18	..
And the girth at the same place	54	..
The broad-girdle (*mēkhalā*, etc.) and other ornaments are to be worn on this part of this body.		
The *kaṭi-pradēśa* in women is always broader and this extra width is laid down as	4	..
The region of the abdomen above the bladder is called the *vasti*. Its width	20 (?)	..
The girth of the body about the *vasti*	57 (?)	..
In the figure of man the chest and abdomen put together resemble the face of a cow. (See illustrations in Mr. Abanindranath Tagore's article in the *Modern Review* for March 1914.)		
The distance between the *vasti* and the *liṅga-sūtra* (called elsewhere the *mēḍhra-mūla*).	4	..
Measurements of the generative organs.		
The length of the penis	5	..
The length of the testicles	4	..
The width of the penis	2	..
The width of the testicles	4	..
The width between the lines formed by the junction of the thighs with the abdomen, measured at their top	8	..
The width between the lines formed by the junction of the thighs with the abdomen, measured at the bottom	6	..
The length of the nut of the penis	1 (?)	..

Parts measured.	Aṅgula.	Yava.
Measurements of the legs.		
The girth of the thigh at its middle	36	..
The thigh should gradually taper downwards, and be smooth and hairless, without any folds in its surface, resembling a plantain tree.		
The length of the knee	4	..
The girth of the leg at the knee	21	..
The knee should be slightly raised and it should make a distinct depression on both sides of its base.		
The girth of the foreleg at its lower end	16	..
The calf is known as the *Indra-vasti* ; its girth	18	..
Measurements of the feet.		
The width of the heels	5	..
The distance of the bony head of the foreleg (which projects outwards above the heel) from the heel.	4	..
It is also 4 *aṅgulas* above the ground-level	4	..
The width of this bony projection	2	..
The back of the foot (at the heels) should resemble the back side of the elephant.		
The sole of the foot should be curved inside like a spring, but should be level at its outer side ; the sole of the foot is somewhat raised at the junction of the toes with the foot.	6	..
The width of the foot in front	6	..
The width of the heels in their broadest part	4	..
The height of the foot at its centre	3	..
The height of the foot a little behind the place where the great-toe joins .	2	..
The height of the foot at the great-toe	1	2
The length of the great-toe	3	..
The girth of the great-toe	15 (?)	..
The great-toe should have only two digits ; the length of its nail should be one-half that of its first digit.		

Parts measured.	Aṅgula.	Yava.
Measurements of the feet—contd.		
The length of the second toe	3	2
Its girth	3	..
The length of the middle toe	2	6
Its girth	2	5
The length of the fourth toe	2	4
Its girth	2	2
The length of the little toe	2	1
Its girth	1	2
All these toes should have three digits. Their height at the tips	..	4
The nails of each of these toes should be equal to one-half of that of the first digit of each.		
These nails should be rosy in colour.		
Measurements of the arms.		
The arms should be hanging from where the collar bones are attached.		
The shoulder blades are called the *aṁsa-phalakā ;* their length (?)	6	..
Between these shoulder blades should be the spinal column resembling the stalk of the plantain flower ; its width	2	..
The upper arm is called the *bāhu* or *bāhu-parva.* Its length up to the elbow.	17	..
The length of the forearm	..	..
The girth of the upper arm	16	..
The girth of the forearm	14	..
The girth of the wrist	12	..
The width of the arm at the elbow	5	..
The width of the upper arm, forearm, and wrist, should be one-third of their respective girths.		
The length of the palm of the hand (from the root of the middle finger to the end of the wrist)	7	..
The length of the middle finger	5	..

Parts measured.	Aṅgula.	Yava.
Measurements of the arms—contd.		
The length of the index finger or forefinger	4	..
The length of the ring finger	4	..
The length of the little finger	3	4
The length of the thumb	4	..
The line in the palm of the hand, which rises from below the root of the little finger, and is called the *Ayūrēkhā*, should terminate between the index finger and the middle finger and should be curved in shape. Its distance from the roots of the ring finger and the middle finger is 2 *aṅgulas* and 1½ *aṅgulas* respectively. (Fig. (*d*), Plate XI.)		
The length of this line	5	..
The nail is divided into the living portion and the dead portion. The former constitutes the major portion of it and is attached to the flesh while the latter forms but a small portion which is not attached to the flesh but is free.		
The length of the latter should be	..	3 (?)
The colour of the living portion of the nail is rosy red, whereas that of the dead portion bluish white.		

Nava-tāla measure according to the Śukranīti (Fig. (*b*) Plate X).

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
In the case of the image made according to the *nava-tāla* measure, the face must be one *tāla* in length.	12	..
The width of the forehead	4	..
The length of the nose	4	..
The distance between the tip of the nose to the end of the chin . .	4	..
The length of the neck	4	..
From the *hikkā-sūtra* to the *stana-sūtra* (or the length of the chest) .	12	..
From the *stana-sūtra* to the *nābhi*	12	..

Parts measured.	Aṅgula.	Yava.
Vertical measurements—contd.		
From the *nābhi* to the *mēḍhra-mūla*	12	..
The length of the thighs	24	..
The length of the knees	4	..
The length of the forelegs	24	..
The height of the foot	4	..
TOTAL .	108	..
(From these measurements, those of the *daśa, ashṭa* and *sapta tālas* must be deduced.)		
Measurements of the arms and hands.		
The length of the arms from the shoulder to the tip of the middle finger	48	..
The length of the upper arm from the upper part of the shoulder . .	20	..
The length of the upper arm from the armpit	13	..
The length of the forearm up to the tip of the middle finger . . .	28	..
The length of the palm of the hand	7	..
The length of the middle finger	5	..
The tip of the thumb should reach the root of the index finger ; the length of the thumb.	3	4
It should have only two digits, whereas all the other fingers should have three.		
The ring-finger should be half an *aṅgula* less in length than the middle finger.	4	4
The index finger should be one *aṅgula* less in length than the middle finger.	4	..
The length of the small finger is less by one *aṅgula* than the ring finger .	3	4

Parts measured.	Aṅgula.	Yava.
Measurements of the foot.		
The length of the foot	14	..
The length of the great-toe	2 or $2\frac{1}{2}$	..
The length of the second toe	2 or $2\frac{1}{2}$	..
The length of the other toes (roughly)	1	4
The veins of the legs and feet should not be prominently visible, nor should the ankle bone project very much.		
Measurements of the face.		
The length of the forehead (measured horizontally)	8	..
The combined length of the two brows (4+4).	8	..
The width of the brows	..	4
They should be bent like a stringed bow.		
The length of the eye	3	..
Its width	2	..
The diameter of the black-ball ($\frac{1}{3}$ of the width of the eye)	$\frac{2}{3}$	..
The distance between the inner ends of the brows	2	..
The width of the nose-tip	1	..
The width of each nostril	7	..
The thickness of the bridge or the septum of the nose	..	4
Its length measured horizontally at right angles to the plane of the face	1	4
The nose may be aquiline (like the beak of a parrot) or like the sesamum flower. The wings of the nose should resemble the pods of beans.		
The top of the ears should be on a level with the brows.		
The length of the ear	4	..
The length of the *karna-pāli* (the lobe of the ear bored and lengthened).	3	..
The width of each *pāli*	..	4
Horizontal Measurements.		
The distance between the middle of the neck to the shoulder	8	..

Parts measured.	Aṅgula.	Yava.
Horizontal measurements—contd.		
The distance between the outer surfaces of the upper arms (or the total width of the chest including the shoulder)	24	..
The distance between the nipples	12	..
The distance between the ears (measured along the contour of the face)	16	..
The distance between the ears and the chin	8	..
The distance between the ear and the nose	8	..
The distance between the ear and the eye	4	..
The length of the mouth	4	..
The width of the lips	..	4
The width of the *mastaka* (head near the scalp)	10	..
The length of the *mastaka* (measured between the forehead and the back of the skull ?)	12	..
Measurements of the girths.		
The girth of the *mastaka*	32	..
The girth of the neck at its lower end	22	..
The girth of the chest at its middle	54	..
The girth of the chest at the place where it meets the abdomen . .	47	..
The thickness of the chest (from the breast to the back) . . .	12	..
The girth at the *kaṭi-pradēśa*	44	..
The height of the glutials	4	..
Their diameter	6	..
The diameter of the glutials of women should be one *aṅgula* more than that of the males.		
The girth of the upper arm at its lower end	16	..
The girth of the upper arm at its upper end	18	..
The girth of the forearm at its upper end	14	..
The girth of the forearm at its lower end	10	..
The width of the palm of the hand and the sole of the foot, each . .	5	..

Parts measured.	Aṅgula.	Yava.
Measurements of the girths—contd.		
The girth of the thigh at its upper end	32	..
The girth of the thigh at its lower end	19	..
The girth of the knee at its lower end	12	..
The girth of the knee at its upper end	16	..
The girth of the middle finger at its root	4	..
The girth of the index finger and the ring finger at the same place .	3	4
The girth of the little finger	3	..
The girth of the fingers at their extremities should be ¼ less than that at their roots.		
The girth of the thumb	4	..
The girth of the great-toe	5	..
The girth of the other toes	3	..
The diameter of the dark circle round the nipple	1	4
The diameter of the navel	1	..
The glance of the image should not be directed upwards or downwards, but must be looking straight forward, and the expression must not be suggestive of anger, etc., but be calm and peaceful.		

Of the various measurements of the *Adhama-nava-tāla* measure downwards to the *Chatustāla* measure, only the vertical measurements are given in the *Śilparatna;* the other and more minute measurements are not given in detail as in the other previous instances. This authority requires the artist to abide by the general measurements given under each of the *tāla-māna,* and to supplement those not given from his own experience and knowledge. The list of beings for making whose images each of these *tāla-mānas* is intended, has already been given and need not be repeated under the description of each of them.

Adhama-Nava-tāla.

Parts measured.	Aṅgula.	Yava.
The height of the *ushṇīsha*	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*) .	2	4
The distance between the root of the hair (*kēśānta*) and the *akshi-sūtra* .	3	6
The distance between the *akshi-sūtra* and the end of the nose (*nāsā-puṭānta*).	3	6
The distance between the end of the nose and the end of the chin (*han-vanta*).	3	6
The height of the neck	3	4
From the lower end of the neck to the chest (*hikkā-sūtra* to the *stana-sūtra*).	11	2
From the chest (*stana-sūtra*) to the navel (*nābhi*)	..	..
From the navel to the root of the penis (*mēḍhra-mūla*) . . .	11	2
The length of the thighs	22	4
The length of the knee	3	4
The length of the foreleg	22	4
The height of the foot	3	4
TOTAL .	104	..
The length of the upper arms	22	4
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The rest of the measurements should be judged from those given under the *dasa-tāla* and the *nava-tāla* measures.		

Uttama-Ashṭa-tāla Measure.

Parts measured.	Aṅgula.	Yava.
The height of the *ushṇīsha*	1	..
The distance between the *ushṇīsha* and the root of the hair (*kēśānta*) .	2	4
The distance between the root of the hair (*kēśānta*) and the end of the chin (*hanvanta*).	10	6
This distance is to be divided into three equal parts of which the first third is the distance from the root of the hair to the *akshi-sūtra* ; the second third, that from the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*) and the last third, that from the end of the nose to the end of the chin (*hanvanta*).		
The height of the neck	3	4
From the lower end of the neck (*hikkā-sūtra*) to the chest (*stana-sūtra*) .	10	6
From the lower end of the *stana-sūtra* to the navel (*nābhi*) . . .	10	6
From the lower end of the navel to the root of the penis (*mēḍhra-mūla*) .	10	6
The length of the thighs	21	4
The length of the knee	3	4
The length of the foreleg	21	4
The height of the feet	3	4
TOTAL .	100	..
The length of the upper arm	21	4
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The other measurements which are not given here are identical with those given under the *Nava-tāla* measure.		

Madhyama-Ashṭa-tāla Measure

Parts measured.	Aṅgula.	Yava.
The total height of the image should be first divided into eight equal parts of which the length of the face should be one part . . .	1	..
The height of the neck, of the knee, of the foot and *śiras* (is it *ushṇīsha* to *kēśānta* ?) are each to be one-fourth of the length of the face. Total	1	..
The distance between (*a*) the *hikkā-sūtra* and the *stana-sūtra*, (*b*) the *stana-sūtra* and the *nābhi* and (*c*) the *nābhi* and the *mēḍhra-mūla*, should each be equal to the length of the face. Total	3	..
The remaining parts make up the lengths of the thighs and the foreleg .	3	..
(It is stated that the length of the foreleg is 18 parts (*aṁśas*) and that of the palm of the hand, 7 *aṁśas* : what fraction of the total height is this *aṁśa*, it is not mentioned. But since the number of the *aṅgulas* contained in the height of an image of the *madhyama ashṭa-tāla* is, according to the Kāraṇāgama, 96, since the length of either of the thighs or the foreleg is found to be uniformly $1\frac{1}{2}$ times the length of the face in all the previous instances and since also there are exactly 3 face-lengths alone that remain, the *aṁśa* must be $\frac{1}{96}$th of the total height of the figure.)		
The other measurements left out here must be taken proportionately as pointed out in the previous *tālamānas*.		

Ashṭa-tāla according to the Śukranīti.

Parts measured.	Aṅgula.	Yava.
The length of the face	12(?)	..
The length of the neck	4	..
From the *hikka-sūtra* to the *stana-sūtra*	10	..
From the *stana-sūtra* to the *nābhi*	10	..
From the *nābhi* to the *mēḍhra*	10	..
The length of the thighs	21	..
The length of the knees	4	..
The length of the foreleg	21	..
The height of the foot	4	..
TOTAL .	96	..

Uttama-Sapta-tāla Measure.

Parts measured.	Aṅgula.	Yava.
The height of the *ushṇīsha*	..	4
The distance between the *ushṇīsha* and the root of the hair (*kēśānta*) .	1	..
The distance between the root of the hair to the *akshi-sūtra* . . .	2	4
The distance between the *akshi-sūtra* to the end of the nose (*nāsā-puṭānta*).	3	4
The distance between the *nāsā-puṭa* to the end of the chin (*hanvanta*) .	3	4
The height of the neck	4(?)	..
From the *hikkā-sūtra* to the *stana-sūtra*	7	..
From the *stana-sūtra* to the *nābhi*	9	..
From the *nābhi* to the *mēḍhra-mūla*	9	..
The length of the thighs	20	..
The length of the knee	2	..
The length of the foreleg	20	..
The height of the foot	2	..
TOTAL .	84	..
The length of the foot (from toe to heel)	14(?)	..
The length of the upper arm	20	..
The length of the forearm	16	..
The length of the palm of the hand	5	..
The length of the middle finger	4	..
The remaining measurements must be judged from those given in the previous instances.		

Sapta-tāla Measure according to the Śukranīti.

The images of the lesser females (deities) should be made according to the *sapta-tāla* measure. The proportion of the various limbs in children and others will always differ very much: in children the neck will be short and the head proportionately large. The head does not grow as fast as the other parts of the body. Full growth is attained in boys about their 20th year of age, and in girls in the 16th;

growth is more rapid after the 5th year. The proportions of the members of the body of a child are roughly as follows :—[1]

The length of the face	1 part.
The length of the remaining portion of the body (from the neck to the foot) divided as follows :—	$4\frac{1}{2}$ parts.
From the neck to the *mēḍhra*	2 parts.
From the *mēḍhra* to the foot	$2\frac{1}{2}$ parts.
The length of the arms	2 or $2\frac{1}{4}$ parts.

There is no definite rule for the stoutness of a child. It should be adjusted so as to make the child good-looking.

For making the image of a child the *sapta-tāla* measure will also suit well.

Sapta-tāla Measure.

Parts measured.	Aṅgula.	Yava.
The length of the face	12	..
The length of the neck	3	..
From the *hikkā-sūtra* to the *stana-sūtra*	9	..
From the *stana-sūtra* to the *nābhi*	9	..
From the *nābhi* to the *mēḍhra*	9	..
The length of the thighs	18	..
The length of the knees	3	..
The length of the foreleg	18	..
The height of the foot	3	..
TOTAL .	84	..

According to the *Śukranīti*, gods and goddesses should always be represented in their images as youths; sometimes they may be sculptured as children, but never as old persons (since the gods are believed to be susceptible of neither old age nor death, *jarā-maraṇa*). The king should set up in his kingdom many images made in the due proportions given above, and should annually celebrate festivals in their honour. Images not made in proper proportions, or those which are broken, should never be suffered to remain in *pūjā*. The king should effect repairs to temples, and establish services such as dancing, music, etc. He should not establish them for gratifying his own pleasure. He should also help the festivals of the gods conducted by his subjects.

[1] These proportions do not work well in practice. See Illustration (Fig. (*b*) Plate XI).

Shaṭ-tāla Measure.

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
Ushṇīsha	..	4
The distance between *Ushṇīsha* to the roots of the hair (*kēśānta*) .	1	..
The distance between *kēśānta* and the chin (*hanvanta*) . . .	8	4
The height of the neck	3	4
From the *hikkā-sūtra* to the chest (*stana-sūtra*)	8	4
From the *stana-sūtra* to the navel (*nābhi*)	8	4
From the *nābhi* to the root of the penis (*mēḍhra-mūla*) . . .	8	4
The length of the thighs	17	..
The length of the knee	1	4
The length of the foreleg	17	..
The height of the foot	1	4
TOTAL .	76	..
The length of the upper arms	17	..
The length of the forearms (*viśvāṅgula* ?)	..	..
The length of the palm of the hand	5	..
The length of the middle finger	5	..
The length of the foot	12	..
The remaining measurements which are not given here have to be worked up by the artist himself from what has already been given under the *Daśa* and *Nava-tāla* measures.		

Pañcha-tāla Measure.

This particular set of proportions is of great importance because Gaṇēśa, the very common Hindu image, is made according to this *tālamāna;* it is also therefore given in the *āgamas* in somewhat detailed manner as follows :—

Two different sets of major measurements are given, of which the second has been utilised to make the drawing on Pl. XI.

Details of measurements.	1st set.		2nd set of proportions.	
	Aṅgula.	Yava.	Aṅgula.	Yava.
I.—Major measurements.				
The distance between the *mūrdha* and the *mastaka* .	2	..	2	..
From *mūrdha* to the *nētra-sūtra*	7	..	4	..
From the *nētra-sūtra* to the *hanu* (chin) . . .	..	..	8	..
The height of the neck	4	..	4	..
From the *hikkā-sūtra* to the *hṛidaya* (chest) . .	7	..	10	..
From the *hṛidaya* to the *nābhi* (navel) . . .	7	..	9	..
From the *nābhi* to the root of the penis (*mēḍhra-mūla*)	7	..	9	..
The length of the thigh	12	..	16	4
The length of the knee	4	..	3	..
The length of the foreleg	12	..	16	..
The height of the foot from the ground . . .	4	..	3	..
Total .	66	..	84	..
II.—Minor measurements.				
(i) *The head and the face.*				
The width of the *mastaka* (head)	8	..	..	..
The width at the place immediately below the crown of the head where it is somewhat hollow.	7	..	..	..
The width at the middle of the face . . .	10	..	..	..
The proboscis should be of such length as to reach as far as the *nābhi* (navel).				

Details of measurements.	1st set of proportions	
	Aṅgula.	Yava.
II.—Minor measurements—*contd.*		
The width of the proboscis at the top	6	..
The width at its lower extremity	1	4
In the trunk there should be two holes.		
The face (above the neck) should be that of an elephant.		
The length of the left tusk that is visible at the outside	4	..
The right tusk should be broken and the stump of this should be projecting out a little.	..	2
The lip should be hanging; the hanging portion should measure	2	..
The length and width of *taila* (?)	..	6
(ii) *The ear.*		
The length and breadth of the ear	5	..
The ear should be turned down a little on the top; its measure	..	4
(iii) *The chest and the abdomen.*		
The width of the chest across the shoulders	32	..
The distance between the armpits	19	..
The distance between the two nipples	10	..
The diameter of the nipple	..	2
The diameter of the circle round the nipple	2	..
The width of the chest below the breasts	15	..
The width of the belly	22	..
The diameter and the depth of the navel	1	4
(iv) *The generative organ.*		
The length of the penis	3	..
The maximum width	1	4
The length and width of the testes	3	..

Details of measurements.	1st set of proportions.	
	Aṅgula.	Yava.
II.—Minor measurements—*contd.*		
(v) *The leg and the foot.*		
The width of the thigh	12	..
The width of the knee	9	..
The width of the foreleg at the top	7	..
The width of the foreleg at the ankle	6	4
The width of the ankle bone	3	4
The width and the length of the heel	3	..
The width of the great-toe, and that of the other four toes is to be respectively $12\frac{1}{2}$, 8, $6\frac{1}{2}$, 6 and 5 *yavas.*		
The width of the nail of each toe should be three-fourths of that of toe and its length equal to one-half its breadth.		
The length of the foot (from the heel to the toe)	7	..
The length of the great-toe	2	..
The length of the smallest toe	1	4
The other toes, beginning from the one next to the great-toe, should be smaller by one *yava* than its adjacent larger one.		
(vi) *The arm and the hand.*		
The length of the upper arm	13	..
The length of the forearm	9	..
The length of the palm of the hand (without the fingers)	4	..
The length of the middle finger	3	..
The length of the ring finger and the index finger	2	5
The length of the thumb and the little finger	1	4
The width of the thumb	1	4
The width of the index finger	1	..
The width of the middle finger	1	1
The width of the ring finger	1	..

Details of measurements.	1st set of proportions.	
	Aṅgula.	Yava.
II.—Minor measurements—*concld.*		
The width of the little finger	..	7
The width of each nail of the finger should be three-fourths of the width of the corresponding finger and the length of the nail should be a fourth greater than its width.		
The width of the upper arm at its top	8	..
The same about the elbow joint	6	..
The width of the forearm	4	..

Besides the above elaborate set of measurements for the making of the figure of Gaṇēśa, a more rough and ready measurement is given thus: The distance between the *ushṇīsha* and the end of the face should be one *tāla;* that between the end of the face and waist, two *tālas;* the length of the arms and legs, one and a half *tālas*, making, thus, a total of four and a half *tālas*. The figure of Gaṇēśa may be sculptured as either standing or sitting, with the face of an elephant, with three eyes, and a neck almost invisible in the bulkiness of the head and the body. (Fig. (*a*) Pl. XII.)

Uttama-Chatus-tāla Measure. (Fig. (*b*) Pl. XII.)

Parts measured.	Aṅgula.	Yava.
Vertical measurements.		
The height of the *śiras* (*ushṇīsha* ?)	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*) .	1	..
The distance between the *kēśānta* and the *akshi-sūtra*	2	..
The distance between the *akshi-sūtra* and the end of the nose (*puṭānta*).	2	..
The distance between the *puṭānta* and the end of the chin (*hanuparyanta*)	3	..
The height of the neck	3	..
From the *hikkā-sūtra* to the *stana-sūtra*	9	..
From the *stana-sūtra* to the *mēdhra-mūla*	7	..
The length of the thighs	12	..

Parts measured.	Aṅgula.	Yava.
Vertical measurements—contd.		
The length of the knees	2	..
The length of the foreleg	10	..
The height of the foot	2	..
TOTAL .	54	..
The length of the foot	10	..
The length of the upper arm	14	..
The length of the forearm	10	..
The length of the palm of the hand	4	..
The length of the middle finger	4	..
The length of the ring finger	3	4
The length of the index finger	3	4
The length of the little finger	3	..
The length of the thumb	3	..
Horizontal measurements.		
The width of the forearm at its lower end	3	..
The width of the forearm at its upper end	4	..
The width of the upper arm at its upper end	5	..
The width of the face	8	4
The width of the neck	7	..
The distance between the two armpits	13	..
The width of the chest	12	..
The width at the *madhyapradēśa*	11	..
The width at the *śrōṇi*	12	..
The width at the hip	13	..
The width of the thigh at its upper end	8	..

Parts measured.	Aṅgula.	Yava.
Horizontal measurements—contd.		
The width of the knee	6	..
The width of the foreleg at its upper end	4	..
The width of the foreleg at the place where there is the bony projection at the lower end of the foreleg (*naḷakā*).	3	..
The width of the foot (at the toe-end)	6	..
The width of the foot (at the heel-end)	4	..
The remaining measurements must be supplied by t.e sculptor from his own artistic instinct and experience.		

Madhyama-Chatus=tāla Measure.

Parts measured.	Aṅgula.	Yava.
Ushṇīsha	1	..
The distance between the *ushṇīsha* and the roots of the hair (*kēśānta*) .	1	..
The length of the face	8	..
The length of the neck	2	..
The distance between the *hikkā-sūtra* and the chest (*stana-sūtra*). .	6	..
From the *stana-sūtra* to the *mēḍhra-mūla*	6	..
The length of the thighs	10	..
The length of the knees	2	..
The length of the foreleg	10	..
The height of the feet	2	..
TOTAL .	48	..
The remaining measurements must be evolved from his own experience by the artist.		

For the measurements of images made according to the *tri-tāla*, the *dvi-tāla*, and the *ēka-tāla*, refer to more ancient authorities, says the *Śilparatna*.

Ābhaṅga, Samabhaṅga and Atibhaṅga.

Images are often made with a few gentle bends in their bodies; the postures in which these bends occur are divided into three classes, namely, *ābhaṅga*, *samabhaṅga* and *atibhaṅga*. In treating of *ābhaṅga* and *samabhaṅga* in Vol. I of the *Elements of Hindu Iconography*, I have wrongly taken *samabhaṅga* to mean a posture without bends in the body, or a perfectly erect posture in standing; and *ābhaṅga*, as a posture with two, three or many bends. Subsequent study has convinced me of the incorrectness of my interpretation of these terms.

In the case of the *ābhaṅga* posture, the medial line (*madhya-sūtra*) passes from the middle of the head, through the tip of the nose, middle of the mouth, the neck and the chest, through the navel, touching the left of the penis, the left thigh at a distance of six *aṅgulas* away from its inner-side, and between the two heels. In the case of an *ābhaṅga* image it will be shortened in its proper height by three *aṅgulas*.

According to the *Pādma-Saṁhitā* the medial line should pass, in the case of a *samabhaṅga* image, from the *śikhāmaṇi* (the finial of the crown) through the middle of the *pūri* or ornamented disc on the left side of the *kirīṭa*, touching the left edge of the forehead, the outer end of the left eye, through the *makara-kuṇḍala* in the left ear, the middle of the navel, and between the two forelegs. Let us take a concrete instance of a *samabhaṅga* image and give more detailed measurements of it as given in the *Uttara-Kāmikāgama*. The Vṛishārūḍhamūrti aspect of Śiva is required to be sculptured in the *samabhaṅga* posture. The *madhya-sūtra* (or *śiva-sūtra*), according to this authority, should be hung from the middle of the forehead.

Parts measured.	Aṅgula.	Yava.
The *madhya-sūtra* should pass through the middle of the nose and touch the ankle of the right leg in its inner side.		
The distance of the middle of the chest from the *madhya-sūtra* . .	3	..
The distance of the navel from the *madhya-sūtra*	1	..
The distance of the penis from the *madhya-sūtra*	4	.
The distance of the right knee from the *madhya-sūtra* . . .	3	..
The distance of the middle of the line joining the two heels from the *madhya-sūtra*.	5	..

The front left arm of the Vṛishārūḍhamūrti may be held either in the *hamsa-paksha* pose or the *patākā* pose and rested upon the head of the bull; the tip of the middle finger of the outstretched left hand should come down to the level of the navel.

Parts measured.	Aṅgula.	Yava.
The distance between this finger-tip to the *nābhi-sūtra* is to be . .	15	..
The distance between the wrist of the same arm and the left side of the body.	19	..
The hand held in the *kaṭaka* pose should be at the same level as the root of the penis.		
The distance between the elbow and the middle of the chest . .	25	..
The distance between the two heels	5	..

Again, it is stated that the images of Dēvīs may be sculptured either in the *ābhaṅga* or the *samabhaṅga* postures, and the following measurements are given for an image in the *ābhaṅga* posture.

In the case of the *ābhaṅga* posture, according to the *Kāmikāgama*, the right leg should be kept firmly on the ground, while the left one should be somewhat bent. The bend of the left leg is said to be 3 *aṅgulas* (from the *madhya-sūtra*). The *madhya-sūtra* should pass through the middle of the forehead, the inner corner of the left eye, touching the left wing of the nose, the left side of the chin, the middle of the chest, the right of the navel, the right side of the left thigh, and the left side of the right heel.

Parts measured	Aṅgula.	Yava.
The distance between the two great-toes	16	..
The distance between the heels	5	$2\frac{2}{3}$
The *Kāraṇāgama* on the other hand requires the *madhya-sūtra* to pass through the tip of the nose and touch the middle of the heel of the right leg which is kept firmly on the ground.	..	..
The distance between the middle of the chest and the *madhya-sūtra*, measured on the left.	3	..
The distance between the navel and the *madhya-sūtra*, measured on the right.	1	..
The distance between the middle of the pudendum and the *madhya-sūtra*, measured on the right.	4	..
The distance between the knee and the *madhya-sūtra*, measured on the right.	3	..

Parts measured.	Aṅgula.	Yava.
The tip of the fingers of the hand held in the *kaṭaka* pose should reach the height of the breast or that of the armpit.		
The distance between the navel and the wrist of the hand held in the *kaṭaka* pose.	13	4
The distance between the forearm of this hand and the side of the chest .	7	..
The distance between the finger ends of the hanging hand and the thigh.	2	..
The distance between the wrist of the hand and the thigh . . .	4	..
The distance between the forearm of this hand and the side of the chest.	6	..
The hand kept in the *kaṭaka* pose may hold in it a *utpala* flower.		

In the case of the image of a Dēvī in the *samabhaṅga* posture, the following measurements are given :—

In this case (that of *samabhaṅga*), the *brahma-sūtra* (or the medial line) should pass through the centre of the forehead, the tip of the nose and between the two heels.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the breast, measured on the left.	3	..
The distance between the *madhya-sūtra* and the navel, measured on the right.	2	..
The distance between the *madhya-sūtra* and the middle of the pudendum, measured on the right.	4	..
The distance between the *madhya-sūtra* and the left knee . . .	3	..
The distance between the two great-toes	18	..
The distance between the two heels	6	..
The hand kept in the *kaṭaka* pose and carrying a *utpala* flower should be as high as the nipple of the breast.		
The distance between the wrist of this hand and the navel . . .	13	4
The distance between the forearm of this hand and the side of the chest	7	..

Parts measured.	Aṅgula.	Yava.
The distance between the elbow of the other arm which is hanging and the hip.	4	..
The distance between the wrist of this hand and the thigh . . .	14	..
The distance between the end of this hand and the thigh . . .	10	..

The image of Gaurī or Dēvī may also be sculptured in another posture, in which case the following are the measurements:—

In this case, the left leg is placed firmly on the ground and the right one is slightly bent; the *madhya-sūtra* should pass, from the centre of the forehead through the tip of the nose and between the two heels.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the middle of the breast, measured on the right.	3	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	2	..
The distance between the *madhya-sūtra* and the centre of the pudendum	3	..
The distance between the *madhya-sūtra* and the knee, measured on the right.	3	..
The rest of the items as in the above description.		

In the case of male deities, the Gaṅgādharamūrti and the Arddhanārīśvaramūrti are given as instances of images made in the *ābhaṅga* posture, and the measurements are given as follows:—

Gaṅgādharamūrti.

In the case of this image, which should be standing in the *ābhaṅga* posture, the *madhya-sūtra* should pass from the centre of the *ushṇīsha,* through the tip of the nose and between the two ankles.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the chest, measured on the left side.	1	..
The distance between the *madhya-sūtra* and the navel, measured on the right side.	1	..

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the penis, measured on the right side.	4	..
The distance between the *madhya-sūtra* and the right knee . . .	3	..
The distance between the two great-toes	15	..
The distance between the two heels	5	..
The distance, from the *madhya-sūtra*, of the left knee, measured on the left.	3	..

Arddhanārīśvaramūrti.

In the case of this image the *madhya-sūtra* should pass from the centre of the forehead through the tip of the nose and between the ankles.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the centre of the chest, measured on the right side.	2 (?)	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	1	..
The distance between the *madhya-sūtra* and the root of the penis.	4	..

The Vaivāhyamūrti may be given as an instance of an image in the *tribhaṅga* posture (cf. Fig. 2). In this case, the *madhya-sūtra* should pass so that the centre of the forehead, the middle of the nose, and the ankle of the left leg, should each be situated at a distance of one *aṅgula* from it.

Parts measured.	Aṅgula.	Yava.
The distance between the *madhya-sūtra* and the middle of the chest, measured on the right side.	1	..
The distance between the *madhya-sūtra* and the navel, measured on the left.	1	..
The hand held in the *varada* pose should stand at the height of the navel.		

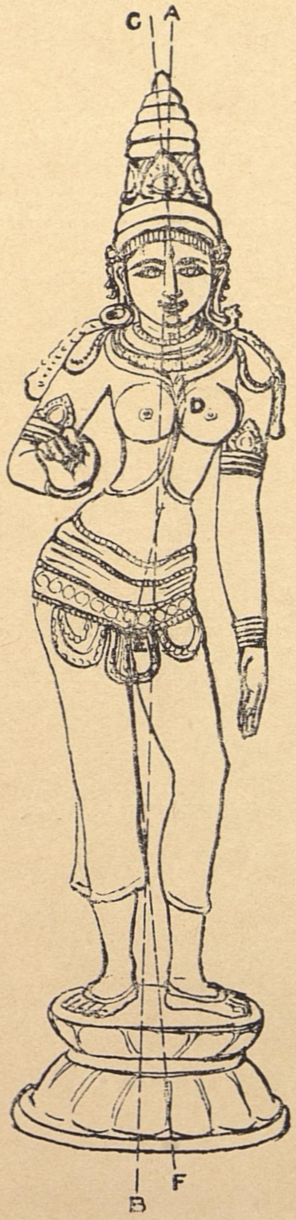


Fig. 2.

Parts measured.	Aṅgula.	Yava.
The distance between the navel and the wrist of this hand . . .	19	..
The distance between the forearm and the side of the chest . .	6	..
The hand held in the *kaṭaka* pose should be situated at the same height as the root of the penis.		
The distance between the navel and the wrist of this hand . .	18	..
The distance between the forearm of this hand and the side of the chest.	6	..
The distance between the two great-toes	13½	..
The distance between the two heels	4½	..
The distance of the knee of the bent leg from the *madhya-sūtra* . .	2	..
The Dēvī standing by his side should also be made in the same manner.		

In the case of an image made in the *Atibhaṅga* posture, the medial line should start from the centre of the head and be slightly deviated to the left from the centre of the forehead and pass through the middle of the left eye, middle of the mouth, the right of the navel and between the two heels. In this case, the total length of the image will be less by 5 *aṅgulas* due to the bends in the body. This posture is prescribed for images made in the reclining posture (*e.g.*, Vishṇu and Buddha).

The *āgamas* contain detailed measurements of individual images, but it is neither easy to give them all here nor to illustrate them with proper drawings or photographs. The general measurements, as given in the various *tālamānas* described above, will no doubt give a fair idea of the artistic canons of the Hindu sculptors of ancient and medieval India.

T. A. Gopinatha Rao.

A glossary of terms occurring in the descriptions of the tālamānas.

Akshi-maṇḍala, the black circle round the nipple.

Akshi-sūtra, *Nētra-sūtra*, an imaginary line passing horizontally across the centres of the two eyes.

Aṁsa-phalakā (the shoulder blades).

Aṅga-pārśva madhya-sūtra, an imaginary line, drawn vertically, touching the outer side of the arm.

Antarbhujāvadhisūtra, a similar line drawn vertically but touching the inner side of the arm.

Āyūrēkhā, the line on the palm of the hand which runs immediately below the roots of the fingers.

Bāhu or *Bāhu-parva*, the upperarm.

Bāhu-paryanta-sūtra, practically same as the *aṅga-pārśva-madhya-sūtra*.

Bhrū-sūtra, an imaginary line drawn horizontally touching the summits of the two brows.

Bṛihatī, the space between the breasts and the armpits.

Chalāsthi, the lower or the moveable jaw.

Chibuka, the fleshy part at the upper margin of the chin, immediately below the lower lip.

Chūchuka, the nipple of the breast.

Chūlī, the ridge which runs round the hollow of the ear.

Dṛishṭi, the centre of the pupil of the eye.

Gōji, *Gōchchha*, the short vertical dimple between the centre of the upper lip and the bridge of the nose.

Hanu, the chin (up to the neck).

Hanvanta (*sūtra*), an imaginary line passing horizontally touching the chin.

Hanuchakra, the small dimple which adds beauty to the chin.

Hikkā-sūtra, an imaginary line drawn so as to touch the two shoulders and the front middle of the lower end of the neck.

Hṛidaya, the chest.

Hṛidayāntasūtra, an imaginary line drawn across the chest passing through the two nipples.

Indravasti, the calf.

Jaṅghā, the foreleg.

Jānu, the knee.

Jyōtirmaṇḍala, the pupil of the eye.

Kaksha-paryanta-sūtra, same as *antarbhujāvadhisūtra*.

Kakshas, the armpits.

Kakud, the nape of the neck.

Kambīraka, the elevations bounding the *gōjī*.

Kanīnikā, pupil of the eye (?).

Kaṇṭha, the neck.

Karabha, the part of the palm between the wrist and small finger.

Karavīra (?), some part connected with the eye (something at the end of the eyes. Is it the red flesh ?).

Karṇa-dvāra, Karṇavēśa, the place where the ear joins the cheek and where the hole of the ear is situated.

Karṇa-pālī (lobes of the ears which are generally pierced though not always as in the case of children).

Karṇa-paryanta-sūtra, an imaginary line drawn vertically so as to touch the roots of the ears.

Karṇa-pippalī or *Pippalī* is the short cartilaginous process attached to the inner end of the cheek situated at the entrance to the hole of the ear; the antitragus.

Karṇa-paṭṭi (?).

Karttana, the name of the teeth one on each side of the *sandaṁśa* or the middle teeth in the lower jaw.

Kaṭi-pradēśa, the region on a level with the generative organs.

Kēśānta, the lower end of the spirals of hair which hang in front, somewhat lower than the roots of the hair.

Kēśarēkhā (*sthāpanirēkhā?*), the line formed by the roots of the hair which bounds the forehead at its upper end.

Khaṇḍana, the third tooth in the lower jaw on either side of the medial line.

Krikāṭī, the raised part of the nape of the neck.

Kritāni.

Kūrchcha-rēkhā (*karṇa-kēśa*), the line formed by the roots of the hair which runs near the ear.

Madhya-ḍanta, the name of the two teeth situated next to the *rāja-danta* or the incisors.

Madhya-pradēśa, the place where the thorax ends and the abdomen begins.

Madhya-sūtra, Śiva-sūtra, same as *Brahma-sūtra,* the imaginary line drawn vertically through the centre of the face and about which the body is bilaterally symmetrical.

Mastaka, the top of the head; this word occurs in the description of the figure of Gaṇēśa and appears to mean the frontal process immediately above the beginning of the proboscis.

Mēḍhra, the male organ.

Mēḍhrānta (*sūtra*), an imaginary line drawn horizontally touching the root of the penis.

Mūrdha, the top of the head; in the case of Gaṇēśa it perhaps implies the two hemispherical projections on the top of the head.

Mūtrāśaya, the bladder.

Nābhi, the navel.

Nābhyanta (*sūtra*), an imaginary line drawn horizontally so as to pass through the middle of the navel.

Nalakā, the shaft of the foreleg.

Nāsā-puṭānta or *puṭa-sūtra,* an imaginary line passing vertically touching the wing of the nose.

Nētra-paryanta-sūtra, an imaginary line drawn vertically from the outer end of the eye.

Pāda-tala, the foot.

Pakvāśaya, the lower abdomen, over the smaller intestines.

Pāli, the bright, narrow line bounding the lips.

Pāripakshaka, the name of the two teeth which are next to the teeth named *madhya* (that is, the canine teeth).

Parahastas, additional arms, which are generally seen in Hindu images

Pārshṇihasta, the wrist.

Piñchhalī or *Piñchhūshī*, a portion of the outer ear; the tragus.

Prakōshṭha, the elbow.

Pushkara, the wall between the nostrils.

Puṭa-paryanta-sūtra, same as *nāsā-puṭa-sūtra*.

Rājadanta, the two incisors (teeth) in the upper jaw.

Sandaṁśa, the two middle teeth of the lower jaw.

Śaṅkha, the spaces between the eyes and the *kēśa-rēkhā*.

Śiraḥ-prishṭhāvasāna-sūtra, the imaginary line drawn vertically from the back of the head and touching it.

Smaśrudēśa, the region of the moustache.

Snāna, a portion of the cheek.

Srakva, the name of the two lateral ends of the mouth.

Śrōṇi-dēśa, the region of the abdomen on a line with the navel.

Stana-sūtra, the imaginary line drawn across the chest, passing through the two nipples; same as the *hṛidayānta-sūtra*.

Sthāpanī-sūtra.

Ūru, the thighs.

Ushṇīsha, the ringlets of hair covering the front of the head (?).

Utpāta, the region outside the ear-hole.

Utkshēpa, the hair on either side of the forehead.

Utkshēpa-pradēśa, the region occupied by *utkshēpas*.

Vaktra-bāhya-sūtra, the imaginary lines passing vertically and touching the ends of the mouths (*i.e.*, the *srakvas*).

Vaṁśa, the bridge of the nose, same as *pushkara* (?).

Vārdhā, the space or the valley between the breasts.

Vasti, the region over the bladder.

Yōni, the female organ.

Yōni-pīṭha, the plain raised fleshy surface over the *yōni*.

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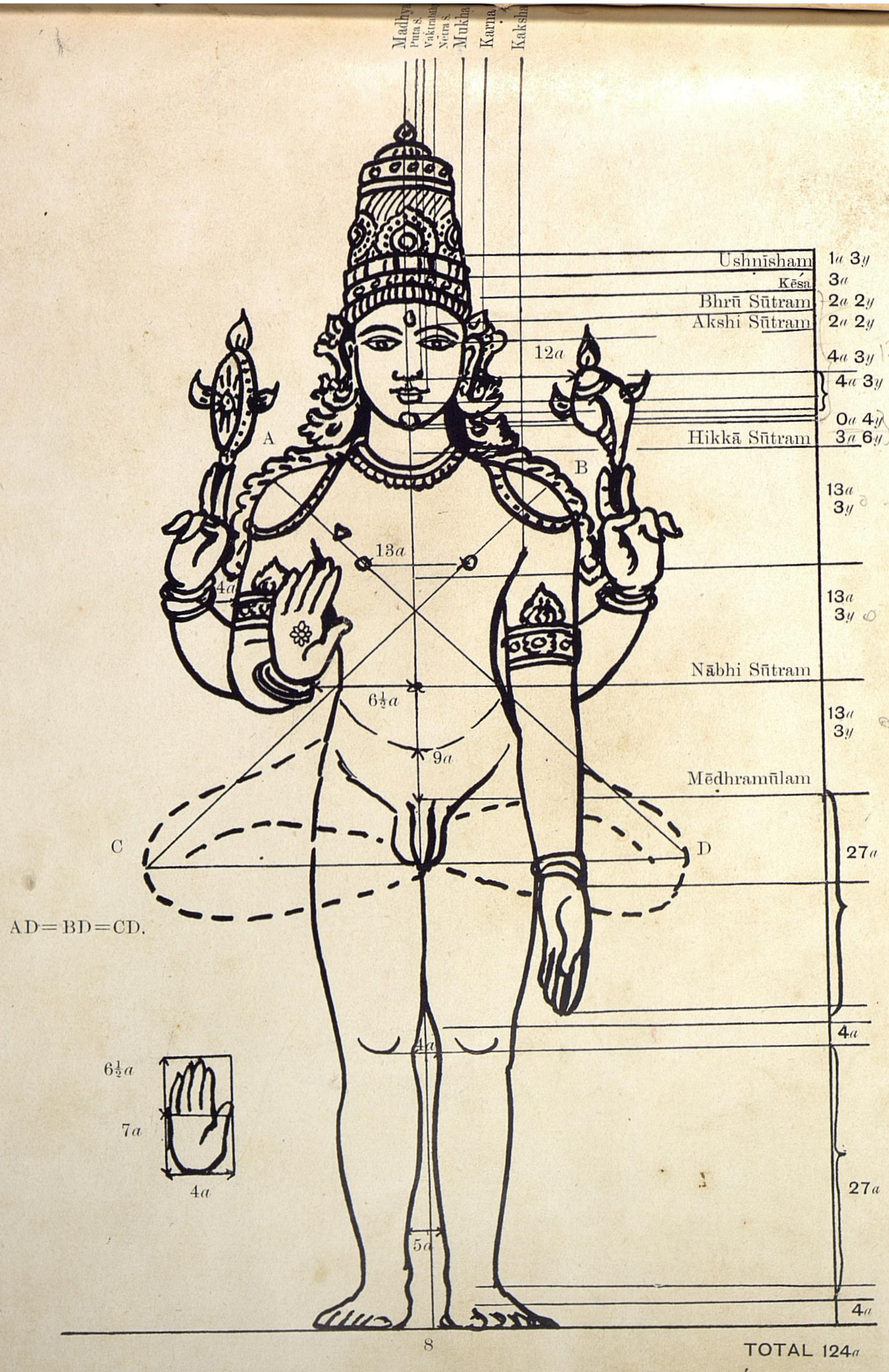
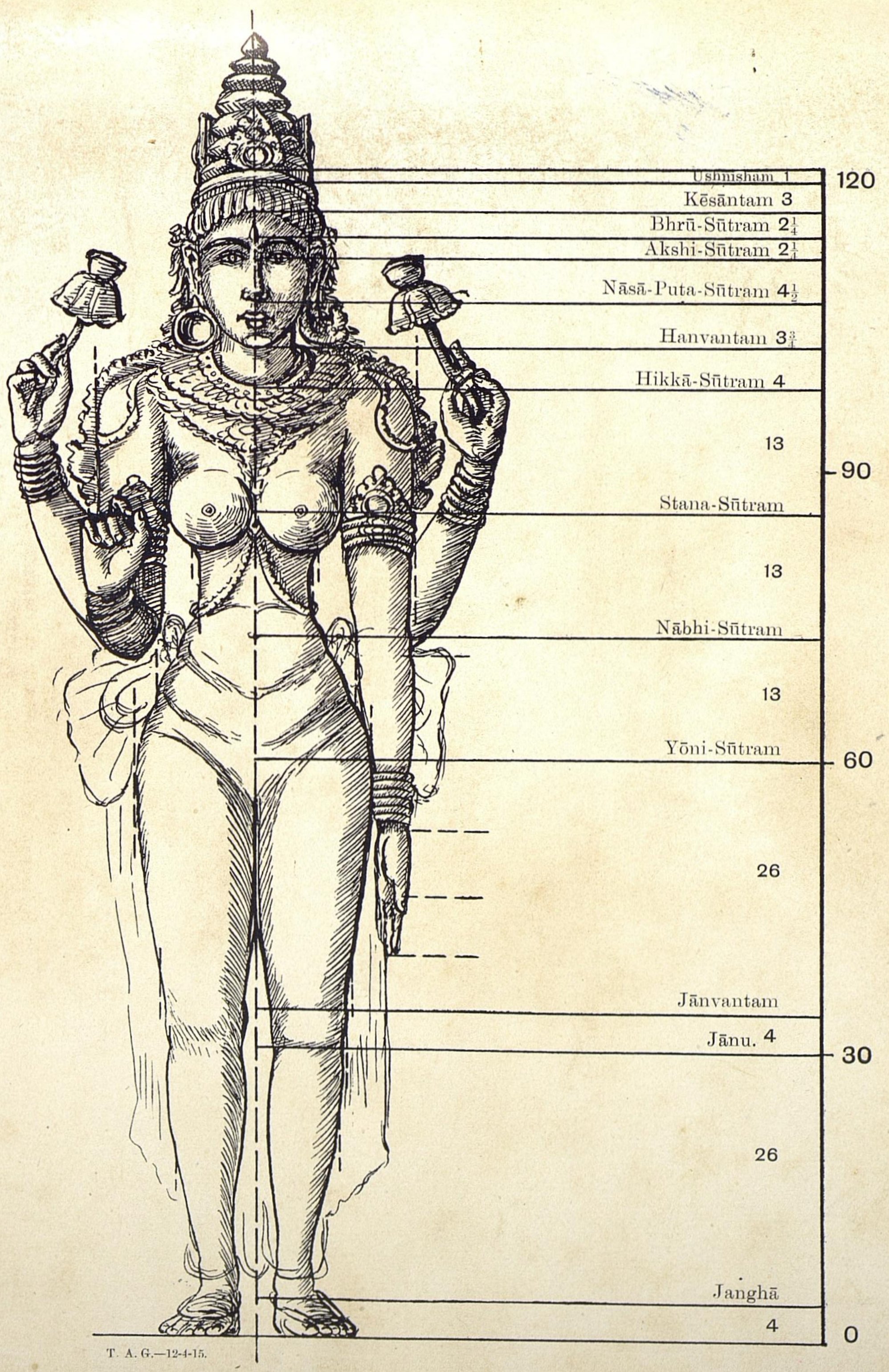


(a) FIGURE OF VISHṆU DRAWN IN ACCORDANCE WITH THE UTTAMADAŚA TĀLAM.



(b) MADHYAMA-DAŚA TĀLAM.

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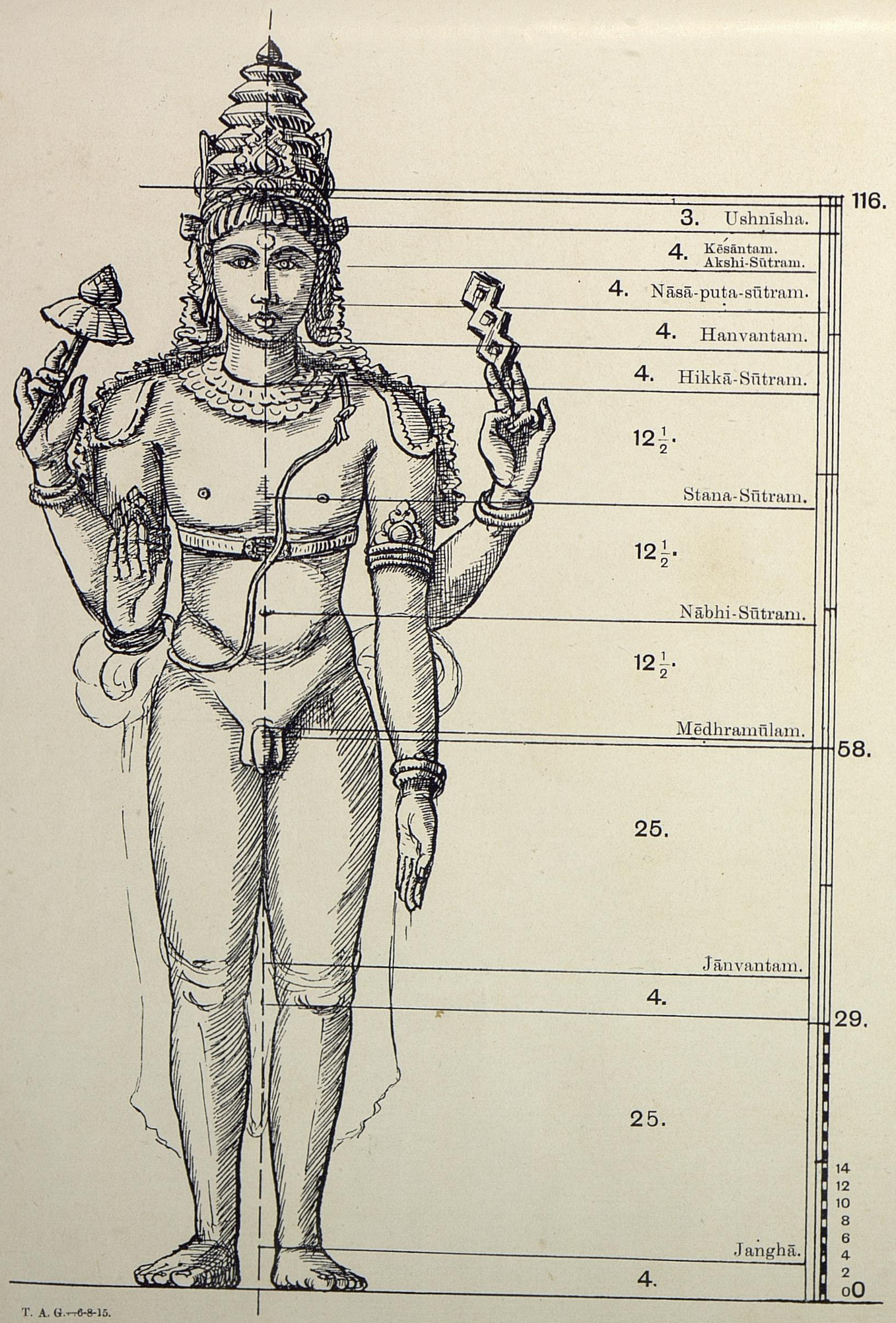
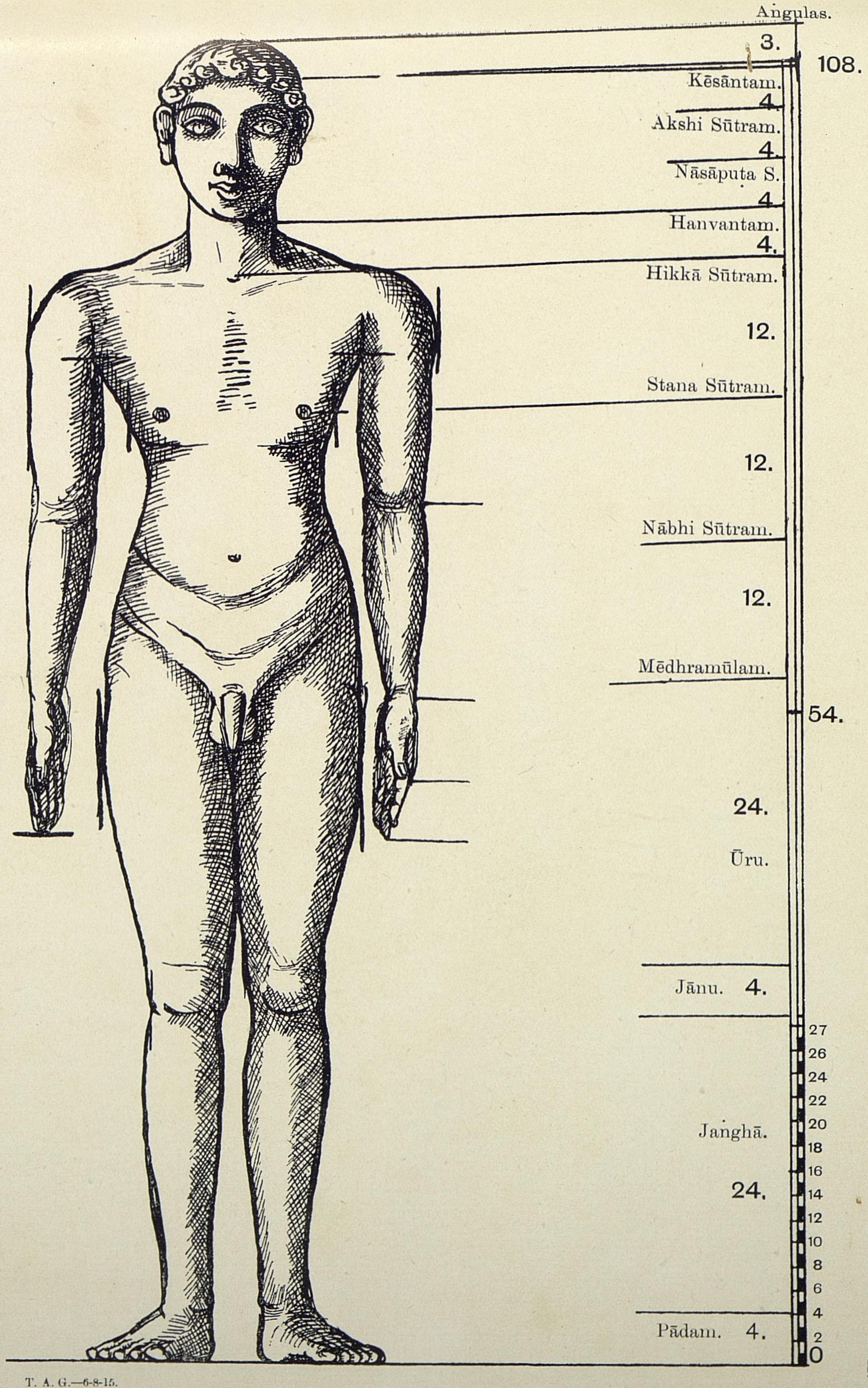


(a) ADHAMA-DAŚA-TĀLAM.



(b) NAVA TĀLAM. (ACCORDING TO ŚUKRA-NĪTI.).

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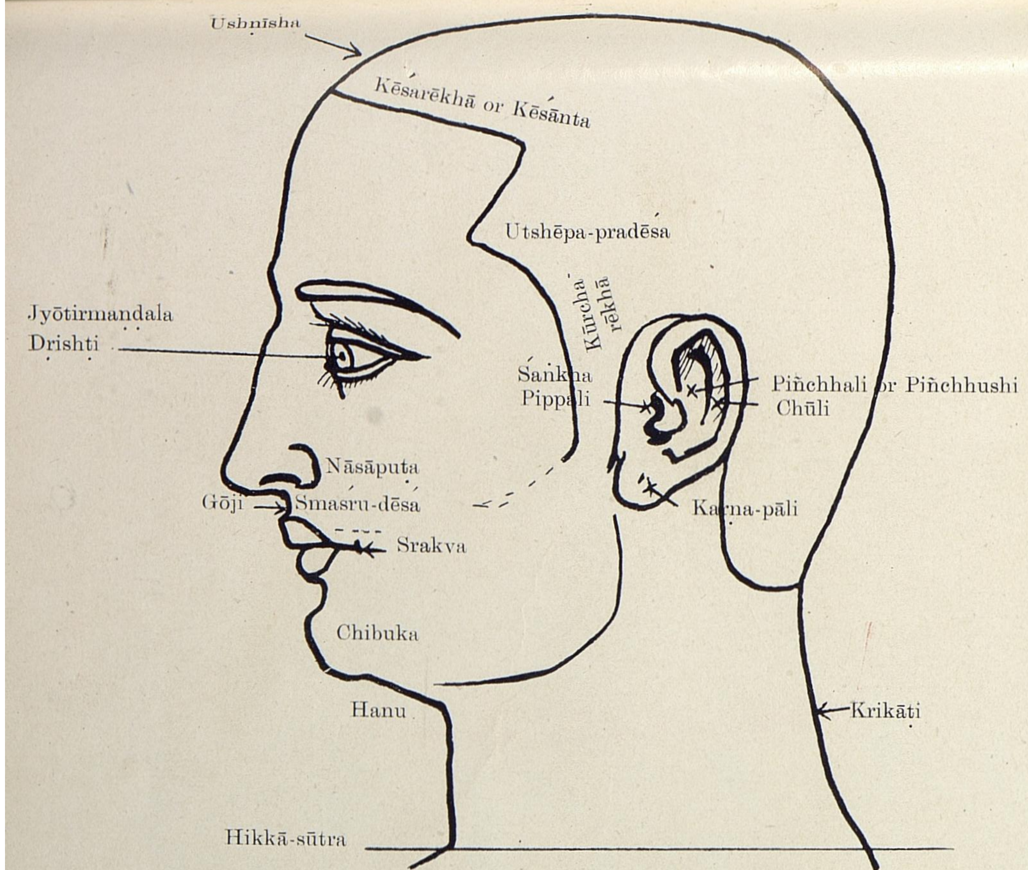
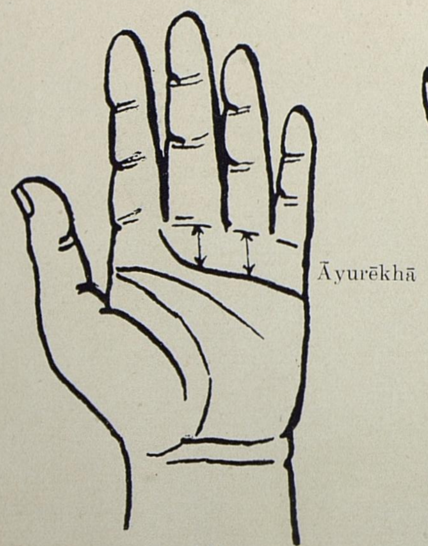
PAÑCHA TALAM.



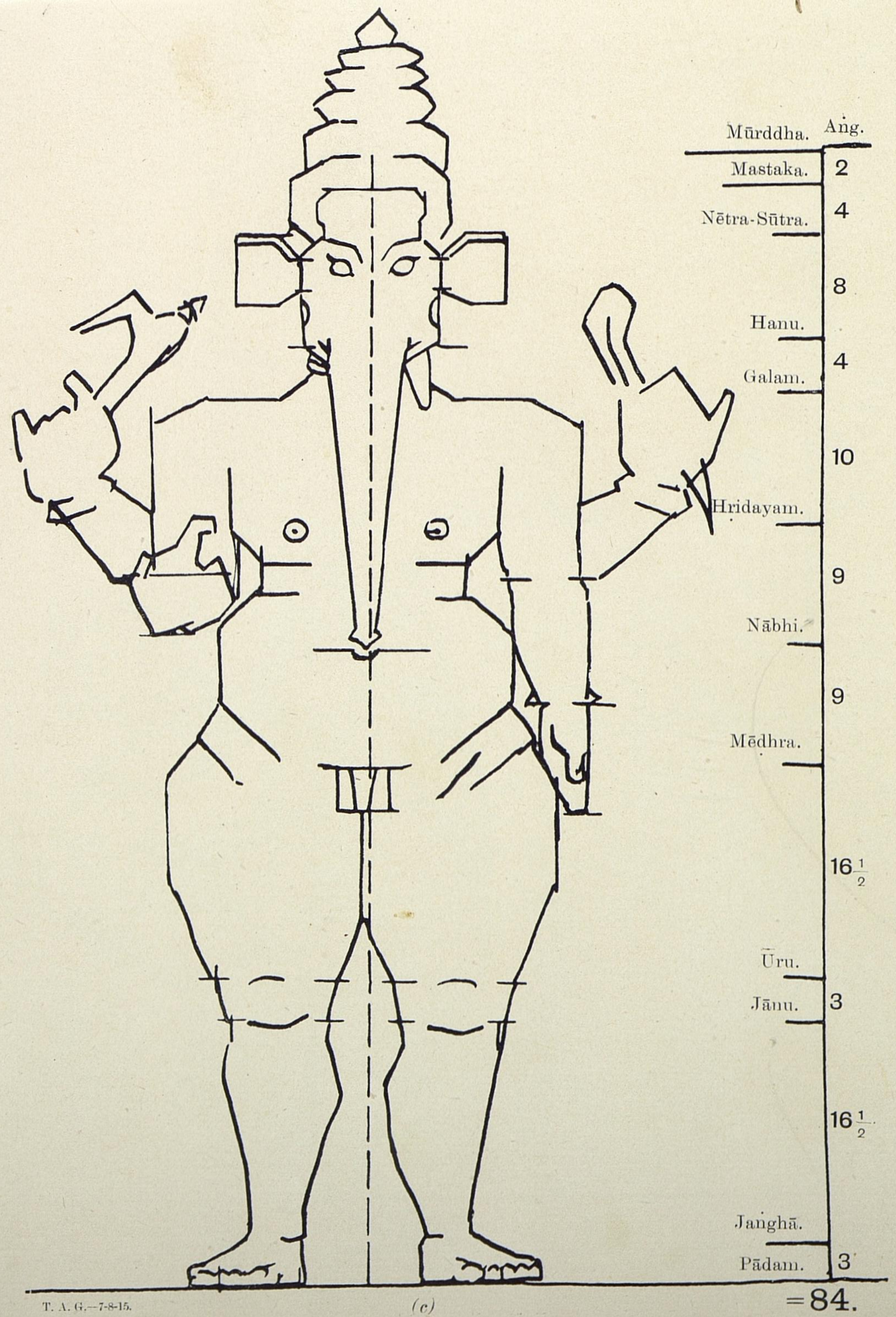
(a)

Measurement of the body of a Child according to the Śukranīti.



(d)

(b)



(c)

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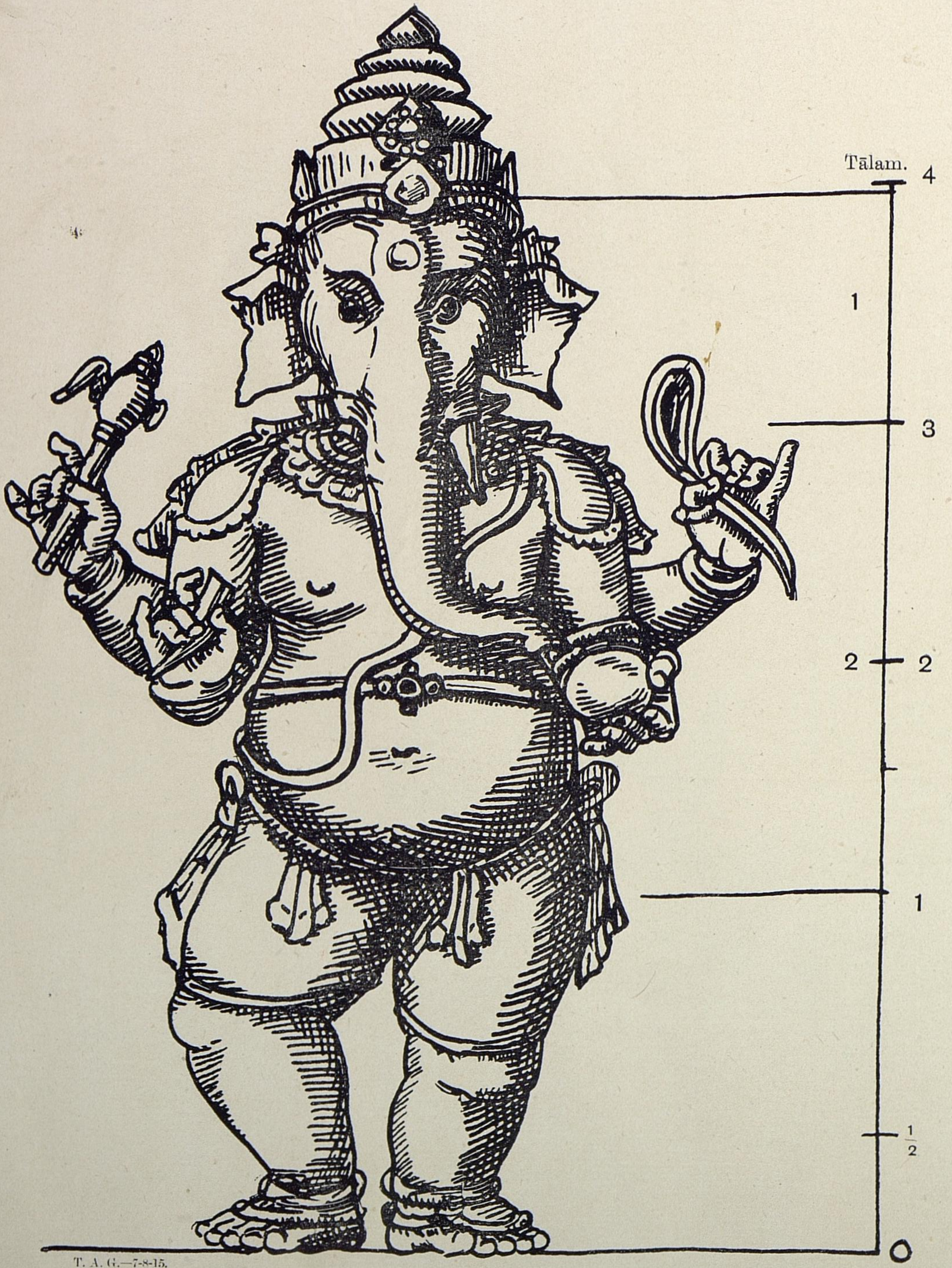
(a). Sārddha Chatustālam. (Rough Measure).



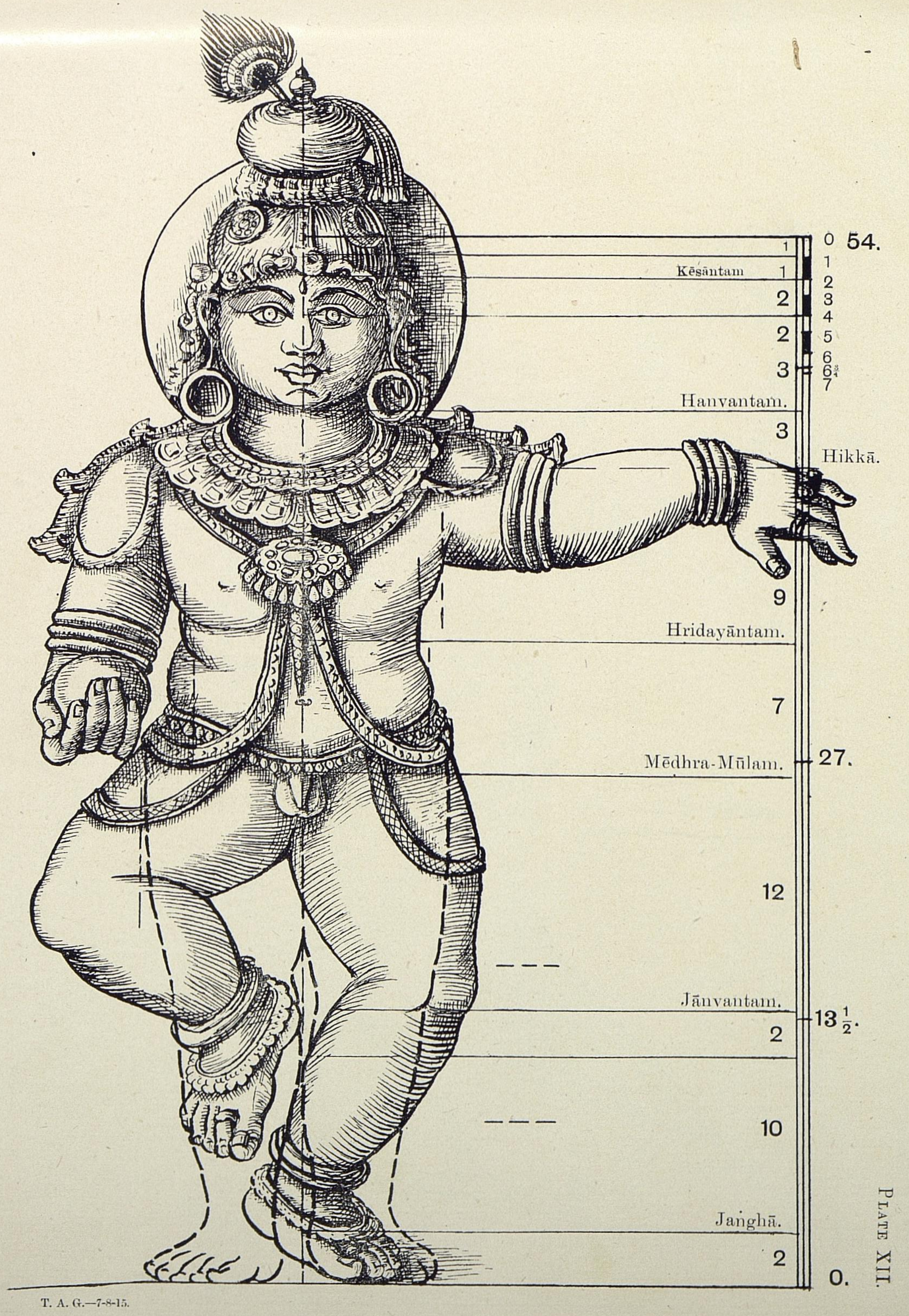


Plate XII.

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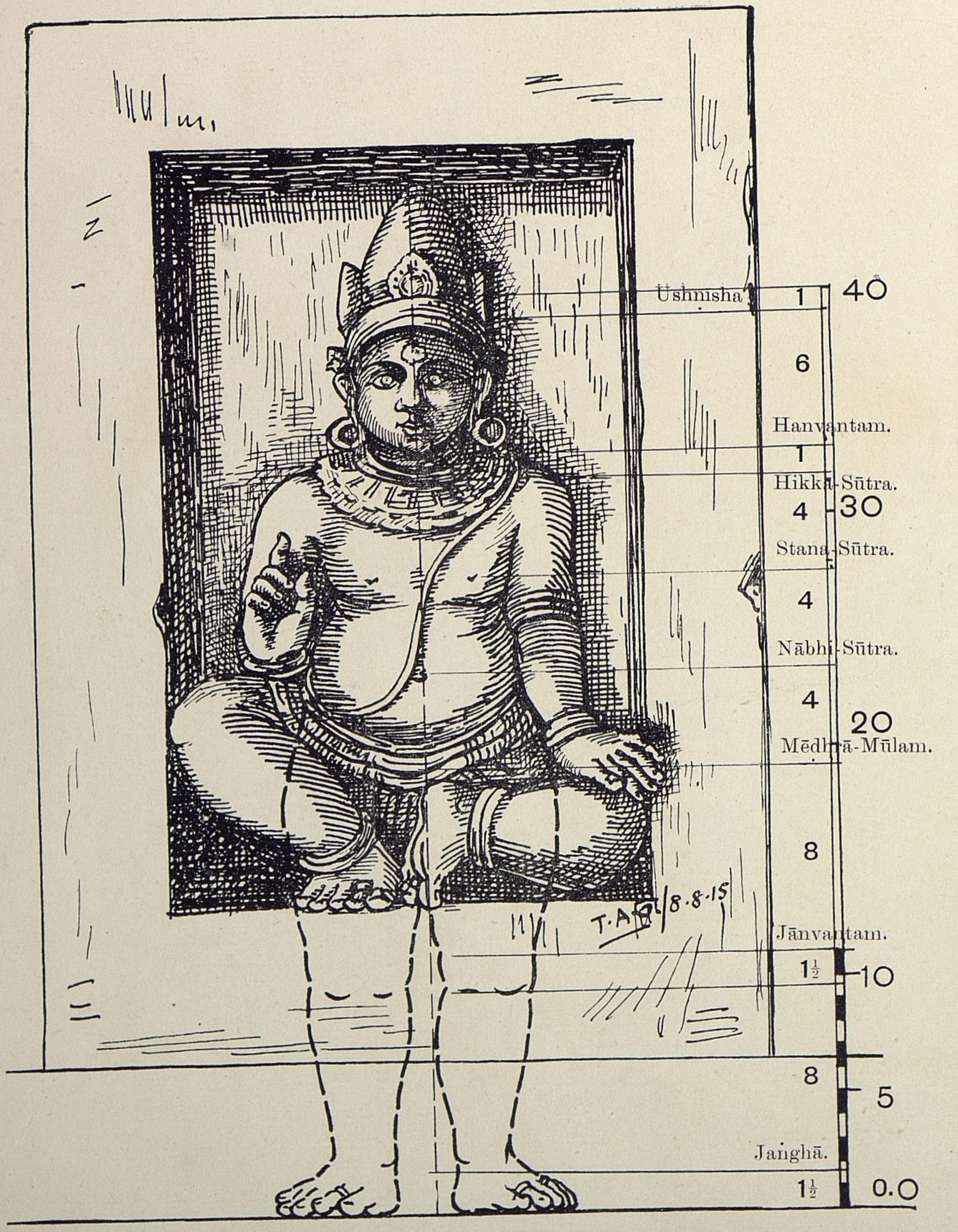

(a) Uttama Tritālam.

A Bhūta, from the Śiva temple, Melcheri.

(b) Madhyama Tritālam.

A Kinnara, from the Kailāsanātha temple, Conjeevaram.

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